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ABSTRACT

Papers consider the problems of combining library science and audiovisual education into educational media complexes, or instructional materials centers (IMC's), in schools for the deaf. Areas covered include the concept of such centers, their relationship with the school library, and the personnel, equipment, materials, and production facilities required. Existing library programs are reviewed and implementation of media programs is discussed. Inservice teacher education in the use of media is also treated, as are the role of the small IMC in diffusing educational innovations and the purpose of educational media in the learning process. (JB)

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on
RESEARCH AND UTILIZATION
OF
EDUCATIONAL MEDIA
for
TEACHING THE DEAF

"The Educational Media Complex"

National Conference
Sponsored by the
Department of Educational Administration
University of Nebraska

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THE NEBRASKA CENTER FOR CONTINUING EDUCATION
LINCOLN, NEBRASKA
APRIL 10 TO 12, 1967

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Support for this Conference has been provided by a grant from

Captioned Films for the Deaf, U.S. Office of Education,

Department of Health, Education, and Welfare

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Robert E. Stepp, Ph.D., Project Director of the Midwest Regional Media Center for the Deaf, is Associate Professor in Educational Administration, Teachers College; University of Nebraska. During 1965-66 he was director of a project to develop and evaluate instructional materials for the deaf. This symposium is one of the projects funded under this grant. He also directed a similar Research Symposium in the Spring of 1965 and in 1966.

Dr. Stepp has conducted research in utilization of 8mm sound films to teach speechreading to deaf children. Articles describing this research may be found in the March 1966 issue of Audiovisual Instruction and the June 1966 issue of Volta Review. This study was financed by an N.D.E.A. Title VII grant from the U.S. Office of Education. Another N.D.E.A. program directed by Dr. Stepp was a Title XI Educational Media Institute conducted at the University of Nebraska during the 1965 summer session.

Dr. Stepp has been active in both state and national audiovisual organizations. He is currently a member of the Board of Directors of the Department of Audio Visual Instruction, N.E.A., a member of its executive committee and on the editorial board of Audiovisual Instruction. He is listed in the National Register of the Educational Researchers published by Phi Delta Kappa.

Dr. Stepp has a A.B. degree from Central College (Missouri), a M.A. from the State University of Iowa, and his Ph.D. from the University of Nebraska.

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FOREWARD

The third Symposium on Research and Utilization of Educational Media for Teaching the Deaf was held at the Nebraska Center for Continuing Education, University of Nebraska, Lincoln, Nebraska, April 10-12, 1967. This national conference was sponsored by the Department of Educational Administration, Teachers College, University of Nebraska, and Captioned Films for the Deaf, Bureau of Education for Handicapped Children, U.S. Office of Education, Department of Health, Education and Welfare. The general theme this year was "The Educational Media Complex." The topic refers to the emerging concepts of library science and audiovisual education being combined into a new organization currently identified as the Instructional Materials Center.

Both fields of educational media were ably represented on the program by the speakers and discussion leaders who are national authorities in their respective areas of specialization.

Keynote addresses were presented by Professor Carolyn Whitenack, Purdue University, and President-elect American Association of School Librarians; Miss Peggy Sullivan, Director, Knapp School Library Project; Mr. Richard L. Darling, Montgomery County Public Schools, and President, American Association of School Librarians; and Dr. W. C. Meierhenry, University of Nebraska, and President-elect, Department of Audiovisual Instruction, N.E.A.. Discussion papers were prepared and presented by Professor Marie McMahan, Western Michigan University; Dr. Gene Faris, Indiana University; Dr. William Jackson, University of Tennessee;

Mr. Ben Schowe, Jr., Ohio School for the Deaf; Dr. Frank Withrow, Illinois School for the Deaf; Mrs. Patricia B. Cory, Lexington School for the Deaf; Dr. Raymond Wyman, University of Massachusetts; and Dr. Marshall Hester, New Mexico State University. In addition, special reports on the Captioned Films Program were presented by Dr. John A. Gough, Mr. Ross Stitt, Mr. Mac Norwood, Dr. Donald Ferguson, Dr. Max Frankel, Dr. Glenn Pfau and several of the speakers previously identified. The success of this conference rests with the outstanding contributions of each of these speakers.

Thanks and appreciation are also extended to the chairmen of the several sessions: Mr. George Propp, Dr. Howard M. Quigley, Dr. Thomas Behrens, Dr. J. Jay Farman, Mr. Bill Blevins, Dr. Powrie V. Doctor, Dr. Jay Jones, Mr. Dewey Brasel, Dr. Richard King, Mrs. Josephine Carr, and Mr. Robert J. Schmitt. Special mention should be made of the contributions of the effecient conference staff: Dr. Joseph Giangreco, Miss Marie Focht, Dr. John Wiley, recorders; Mr. George Propp final report editor; Mr. Kenneth Stevens, conference coordinator, and Mrs. Marcia Carlson, secretary.

Considerable credit for the success of this conference should go to Dr. John Gough, Director, Mr. Gilbert Delgado, and Mr. Ross Stitt in the Washington Office of Captioned Films for the Deaf. The conference staff and participants are most grateful to Captioned Films for the Deaf for providing the grant which made the symposium possible. More than one hundred and twenty educators of the deaf took advantage of this meeting by participating in the conference.

The addresses and discussion papers are reproduced in the order that they were presented at the conference. The schedule of activities is printed in Appendix A. A roster of the participants may be found in Appendix B. The report of this conference, as was true for the 1965 and 1966 Symposia, will appear in the November issue of the _American Annals of the Deaf_. The Midwest Regional Media Center for the Deaf, University of Nebraska, and Captioned Films for the Deaf, U.S. Office of Education are most grateful to the _American Annals of the Deaf_ for devoting one issue of their journal to this symposium report.

Robert E. Stepp, Director
Midwest Regional Media Center
for the Deaf, and
Professor, Educational Administration, Teachers College
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Lincoln, Nebraska

INTRODUCTION

The 1967 Symposium on Research and Utilization of Educational Media for Teaching the Deaf was the third of a series of symposia held at the Nebraska Center for Continuing Education, Lincoln, Nebraska, with the objective of improving instruction of the deaf. The 1965 and 1966 meetings were fully reported in the November issues of the American Annals of the Deaf. The 1967 conference was sponsored by the Midwest Regional Media Center for the Deaf, a project of Teachers College, Department of Educational Administration, University of Nebraska, supported by Captioned Films for the Deaf, Bureau of Education for the Handicapped, U.S. Office of Education, Washington, D. C.

Many changes have taken place in the education of the deaf over the past few years. These changes are too far-reaching and numerous to be delineated here, but few will argue with the assumption that we are in the stages of an educational revolution. Many forces are at work in promoting these changes. It is possible that we are simply being engulfed in the rising tide of instructional technology that is sweeping general education. On the other hand, in the education of the deaf the need is greater and the climate for innovations is more favorable, and there is every reason to believe that we should be in the vanguard of these new developments. Disregarding the publicized experimental programs, it is well within reason to claim that educational technology has had a greater impact upon the education of the deaf than it has in general public school programs. If this is true, considerable credit is due to Captioned Films for the Deaf and its various programs such as the 1967 Symposium.

It was stated in the report of the 1965 Symposium that "technology is ahead of utilization and application." Despite tremendous strides since that time, the words are no less true today than they were at that time. The lag between invention and application is as serious as it ever was. Technology is moving faster than we are, and the gap between what we are doing and what could be done gets wider by the day. Most educators of the deaf agree that change is desirable and that the tempo of change must be accelerated.

The topic for the 1967 Symposium on Research and Utilization of Educational Media for Teaching the Deaf was more or less determined by the needs of the educational programs for the acoustically handicapped. More effective learning programs are required by the era in which we live. The requisite increase in learning cannot be accomplished with our traditional installations and instructional methods. As demonstrated in previous Symposia, there is an available supply of ideas which need to be applied. One no longer questions the worth or validity of media in the instructional process. In the education of the deaf the question in 1967 is no longer, "Should we?"; the question is, "How do we go about it?" The problem of how to establish, equip, staff, and administer an instructional materials complex was what the 1967 Nebraska Symposium was all about.

Diffusion of innovation was essentially the objective of this symposium. Captioned Films for the Deaf and the Midwest Regional Media Center for the Deaf regard their respective roles in this program, not as innovators directly, but as advocates of innovation. Communication is the principal tool, without which we can neither identify needs or contribute to solution of problems. The strategy was to bring participants together to plan and attain an improved state of functioning by utilizing and applying valid knowledge, more generally to communicate and solve problems. What is desired is not necessarily a crash program but planned change, the development of a sense of strategy in which everyone has a role, leading to a steady progress toward the desired end.

Federal support of educational programs for the handicapped has freed education of the deaf from restricted budgets, and there has been a phenomenal growth in the amount and variety of resources available to the deaf student. Parallel to this development has been an increasing awareness of the growing disparity between the quality of the education that the deaf child has been receiving as compared with that of his hearing brother and sister. Media can help close this gap. However, utilization of media requires change in both our concepts and installations. Change, as always, has its attendant problems. In some of our schools the media riches provided by federal funds has been an embarrassment as we have neither the knowledge nor personnel to make most effective use of it. Media personnel are in short supply, and in our book-oriented schools are operating under a confusing framework of expectations.

Selecting the topic "The Educational Media Complex" as the theme for the 1967 Symposium was in logical sequence with the 1965 and 1966 conferences which dealth with Media and The Systems Approach. Preconference planning for this meeting was based upon several broad assumptions as follows:

1. That an IMC is a basic requisite for present day instructional strategy.

2. That public school education can provide us with patterns, but the education of the deaf presents problems that are in many ways unique.
3. That one blue print would not serve all school programs for the deaf, and that the IMC must be adapted to the individual program it serves.

The general plan of the conference consisted of three major addresses and nine discussion papers-demonstrations. Except for the major addresses, a treatise was distributed in advance of the session to facilitate discussion. The author of each paper demonstrated key points and expanded ideas and participated in ensuing discussion sessions. The 1967 Symposium was structured and sequenced so as to touch upon all the problems of establishing and administering an educational media complex. Speakers and resource people were a balance of knowledgable persons from within and outside the area of teaching the deaf. From the papers and subsequent discussions the participants learned of the justification for an IMC, the services to be provided, the equipment needed, sources of materials, training and competencies of media personnel, correlation of library and media functions, and so on down the line to the many small but significant details of the day-to-day operation of an IMC. Discussion groups provided participants with an opportunity to resolve questions and to put the spotlight on their own particular problems.

Ensuing chapters of this report are comprised of the major addresses and discussion papers presented at the conference. Points brought out during the discussion groups are summarized in the final chapter. Papers are presented in this report in the same order given at the conference.

One of the highlights of the conference in addition to those mentioned was an exhibit of media materials and equipment. This exhibit, provided by the New Mexico Foundation and Dr. Marshall Hester, along with reports on the various activities of Captioned Films for the Deaf in the initial session, gave participants a better view of what to expect in the way of materials and services from CFD.

The series of Symposia at the University of Nebraska are without question performing a valuable service which cannot be carried out in any other way. New insights into learning along with rapid changes occurring in content, methods, and materials require some form of continuing education to supplement the efforts of our formal teacher training programs. Periodical conferences of this nature help to keep skills and attitudes current. Hopefully, the 100 or more participants and observers at the 1967 Nebraska Symposium returned home with an understanding of the necessary strategy for establishing and administering an educational media complex.

REPORT FROM CAPTIONED FILMS FOR THE DEAF

by

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Paper prepared for Symposium on Research and Utilization of Educational Media for Teaching the Deaf, April 10-12, 1967, Lincoln, Nebraska.

Sponsored by the Department of Educational Administration, Teachers College, University of Nebraska, and Captioned Films for the Deaf, U.S. Office of Education, Department of Health, Education, and Welfare, Washington, D. C.

REPORT FROM CAPTIONED FILMS FOR THE DEAF

Overview

This third Symposium on the education of the deaf follows in the basic line of purpose upon which preceeding meetings have been held. Basically these were two in number. The first purpose was to stimulate the development of a number of papers largely by experts from outside the field of education of the deaf but suggesting ways in which the new technology in education might be applied to our field. These papers were to be published so that they would reach a large number of people through the professional literature. This has been achieved by having these papers printed in succeeding November issues of the American Annals of the Deaf. We plan to have the papers from this meeting to appear in next November's Annals.

A second purpose was to try to reach school administrators with a significant message about new media and the education of the deaf. While they may be and, indeed, certainly are as literate as those who read the Annals, administrators are very busy people and frequently find it difficult to find time to read as much as they would like. Hence, a symposium that would permit them to meet some "outside experts" and to enter into discussion with them seemed highly desirable.

Having had the first symposium under the able direction of Dr. Stepp in the almost ideal facilities provided by the Nebraska Center for Continuing Education we found that we had added a third rationale for meeting, for it was and is a most stimulating and useful experience to come together under these circumstances. I hope and trust that this meeting will come up to your expectations and that you will feel rewarded for your investment of time and effort during the next two days.

You are well aware that the Captioned Films for the Deaf program is carrying out a limited program of summer media institutes for teachers of the deaf. These, we think, are important, but it is quite apparent that if maximum yield is to be had from these institutes, school administrators must be involved, too. It is necessary that they provide the kind of leadership and set the kind of climate within the school that will make it possible for the teacher to utilize the new techniques which she learns in the institute. Lacking this kind of encouragement, the teacher may very likely feel that the wind is let out of her sails, the momentum of a new start is lost, and the ultimate outcome is that of grinding along in the same old track.

In welcoming you, then, to this symposium my hope is that from the papers and discussions you will find renewed inspiration to provide professional leadership of a high order in your respective schools and programs, encouraging that which is innovative and providing all the aid you can, both physical and spiritual, toward the implementation of the new technology. I deeply regret that circumstances quite beyond my control necessitate my going back to Washington immediately but wish you the best of success in this symposium. Sincere thanks to those of you who contribute by the preparation of papers or in other ways. We feel that we owe you a deep debt of gratitude and hope that you will be rewarded in some measure by a sense of accomplishment in helping those who need the best that we can provide, namely, our students and our friends, the deaf.

Northeastern Regional Media Center for the Deaf

The Northeastern Regional Media Center for the Deaf was established September 1, 1966, at the University of Massachusetts in Amherst. The objective is to continue and expand work previously initiated in the area of utilizing educational media for the improvement of instruction for the deaf. Emphasis at the Northeastern Center is placed on the establishment of a regional media clearing house, preparing media demonstrations, and conducting a second summer Media Institute for teachers of the deaf.

The project at Amerst is directed by Dr. Raymond Wyman, Professor of Education and Director of the Audiovisual Center of the University of Massachusetts. An Executive Council has been established to assist in guiding the Center activities. Members of this Council are:

Dr. Thomas Behrens, Director, Kendall School for the Deaf
Dr. E. B. Boatner, Superintendent, American School for the Deaf
Mr. John G. Nace, Headmaster, Pennsylvania School for the Deaf
Dr. George Pratt, President, Clarke School for the Deaf

Staff members of the project in addition to Dr. Wyman are:

Joseph Panko, Associate Director, whose responsibility is mainly to establish and organize the media demonstration center at Kendall. He also teaches in the summer institute.

Barbara Wyman, demonstration teacher, shares time with Clarke School for the Deaf and is a teacher in the summer institute.

Nathan Tilley, half-time assistant in the area of photography and transparency production.

Sherman Wheeler, graduate assistant who has been doing part-time work in transparency preparation. He will be laboratory assistant during the summer institute.

Mrs. Sally Mowduk has full-time charge of secretarial and bookkeeping aspects of the project.

The project has acquired two complete demonstration units, one of which is being used at the Kendall School and the other is operating out of the Center. Media demonstrations and workshops have been given at a number of schools, including Rome, Clarke, American, Vermont, Michigan, and St. Marys. The Amherst demonstration unit has been used in these workshops and will also be used for the summer institute. This training is in addition to A-V instruction being done by Mr. Panko at Kendall School.

The major undertaking of the project has been to establish a transparency center. A file of over 10,000 masters has been assembled along with necessary copy equipment. In addition, transparencies have been developed for specific teaching tasks. Information acquired by the Center is to be disseminated to schools for the deaf. The project also provided consultation service on new building programs in Hartford and in Delaware. Another effort has been the evaluation of the media programs at Mt. Airy, and a study of overhead projector characteristics. The Center has also developed several short experimental films in cooperation with the Clarke School for the Deaf.

Plans are being made to continue these activities next year. An effort will be made to produce a comprehensive basic library of transparencies printed directly on acetate to provide schools with a low cost basic transparency library.

Southern Regional Media Center for the Deaf

The Southern Regional Media Center for the Deaf, directed by Dr. William D. Jackson, is one of four regional centers in the United States established by Captioned Films for the Deaf, U. S. Office of Education. The Center is part of the University of Tennessee, College of Education and operates under a federal grant.

This Center serves a twelve state region with the over-all purpose of conducting training, research and development in the area of Educational Media for the improvement of instruction and services in fields relating to the deaf.

As a vital part of its operation, this Center conducts an annual six week Media Institute during the summer. Normally, thirty teachers of the deaf are in attendance at this institute. In these institutes emphasis is placed on the basic skills and techniques to operate equipment and produce materials that are required for enlightened instruction procedure.

Another important phase of the Center's operations is the conducting of in-service workshops at various schools for the deaf throughout the Southern Region. This is accomplished by a team of staff members traveling to a particular school and putting on demonstrations and working with teachers in the production of instructional materials.

This Center is also concerned with the adult deaf who have finished their formal education. Pursuant to this interest, the Center in conjunction with the local Vocational Rehabilitation personnel, is co-sponsoring a three day institute this spring for participants in the area of Vocational Rehabilitation, counseling and guidance of the deaf.

Still another area of interest for this Center is teacher training for the deaf. Long range plans are now being laid to set up a model for preservice training of teachers of the deaf. It is hoped that all of the teacher training centers in this area will participate in the establishment of this modular concept of preservice training and thus establish closer ties with the Regional Media Center.

This center is also pioneering research in the use of closed circuit captioned television as an instructional aid in schools for the deaf, and it is hoped that out of this will come an important new aid for the growth of language in deaf children.

The last area of concentration in which this Center is engaged is in the evaluation of new instructional aids and materials and their applicability to the education of the deaf.

The Midwest Regional Media Center for the Deaf

The Midwest Regional Media Center for the Deaf was established at the University of Nebraska on September 1, 1966. Administratively, the Center functions under the direction of the Department of Educational Administration, Teachers College, and is supported by a grant from Captioned Films for the Deaf, Bureau of Education for the Handicapped, U.S. Office of Education, Department of Health, Education and Welfare.

During the operational year, September 1, 1966 to August 31, 1967, the following purposes were assigned to the Center:

The first function was to design, develop, adapt and produce instructional materials for the express purpose of teaching the deaf. The Center also conducted research into the effectiveness of these materials in an area field testing program.

A second function of the Center was to plan and conduct a Symposium on Research and Utilization of Educational Media for Teaching the Deaf.

The third function was to plan and conduct an Educational Media Institute for Teachers of the Deaf.

The fourth function of the Center was to establish an area program for the schools of the deaf located geographically within the Midwest region.

The fifth function was to provide the service of the Center staff as consultants and resource people to schools for the deaf in the Midwest and Great Plains region of the United States.

To carry out the assigned functions and to administer the daily operation of the Midwest Regional Media Center for the Deaf, a small task force has been recruited. They are:

Director: Dr. Robert E. Stepp
Assistant Director in Charge of Film Production: Mr. Robert L. LaGow
Area Coordinator: Mr. George Propp
Administrative Assistant: Mrs. Trudy Comba
Administrative Secretary: Mrs. Marcia Carlson
Project Secretary: Miss Marianne Bruckner
Media Clerk: Mr. Ronald Kelly

A large portion of the Media Center budget and staff effort over the past months has gone into the production of materials. The largest production item this year has been the revision of a set of films designed to teach a 300 noun vocabulary to deaf children of beginning school age. These films are being field tested as 8mm magnetic sound films for use in the Fairchild Mark IV projector and as silent loop films for the Technicolor 600. Correlated with classroom instruction, the films will provide the necessary repetition and drill for speechreading practice under conditions of independent study. This series of films was designed by Dr. Frank Withrow, Research Director at the Illinois School for the Deaf. Being considered is the possibility of putting optical sound on these films for use with the new Technicolor 1000 projector.

The Midwest Center is also developing an extensive collection of original transparencies for use with the deaf. Since Captioned Films for the Deaf has provided overhead projectors for most of the classrooms in educational programs for the deaf, there is a great need for materials to use with this device. Our transparency masters are printed on Tecnivellum paper and schools may make their own transparencies with either a thermo or diazo process. We have completed sets of transparencies on foods and left to right relationships. In production is a similar set of transparencies on clothing. We are also producing twenty units of teacher-designed transparencies and we also have high expectations from a series of transparencies utilizing movable silhouettes.

The Midwest Center recently completed the third of a series of annual Symposia. These Symposia serve both a training and a dissemination of information function. Participants are generally school administrators or supervisory personnel. These people are in a key position to implement change, and the objective is to reduce the time lag between the discovery and application of knowledge. The Symposium reports appear each year in the November issue of American Annals of the Deaf.

From June 19 to July 29 the University of Nebraska will be the scene of a Summer Media Institute for teachers of the deaf. This will be a repetition of last summer's successful institute, and another thirty teachers will undergo six weeks of rigorous training in the utilization and production of media. Many of these teachers in time will become media specialists and directors of media programs. All will carry home ideas to enrich the instructional process at their respective schools.

One of the major objectives of the Midwest Regional Media Center for the Deaf is in the area of training teachers and school administrators in the utilization of media in instructing the deaf child. Dr. Stepp is conducting off-campus audiovisual classes at both the Iowa School for the Deaf and the Nebraska School for the Deaf. Over sixty teachers are enrolled in these classes for graduate credit. These classes contribute greatly to our production function, as each of these sixty teachers produces media for use in the classroom.

The Midwest Center is designed to serve the educational programs for the deaf in a ten-state area -- Wisconsin, Minnesota, Indiana, Illinois, Iowa, Missouri, Kansas, Nebraska, South Dakota and North Dakota. Up to the present time, direct working relations have been with four schools for the deaf in the immediate area -- the Prescott School in Lincoln, the Nebraska School for the Deaf in Omaha, the Omaha Hearing School, and the Iowa School for the Deaf in Council Bluffs. Plans call for closer liaison with educational programs for the deaf in the Midwest region. During the coming year, the program will be expanded to include more schools in this ten-state area. Special demonstrations, workshops, and in-service education programs are being planned for those schools.

Curriculum Study

In a very brief period of time, it is difficult to describe the Ball State Curriculum Study. This project has been in operation every summer since 1963. The five-year series concludes in 1967.

The Ball State Workshop for Improving Instruction of the Deaf emerged from the felt needs of educators in the field. Like most instructors in the teaching profession, teachers of the deaf issued a call for improved curricular design and for current educational media. Captioned Films was pleased to respond to this expression of need.

The series of workshops was outlined by a National Steering Committee after a systematic assessment of needs. Priorities were established and the sequence of topics as originally planned has been adhered to. With PROJECT LIFE assuming primary responsibility for the area of language development, the Ball State Workshop centered on other curricular areas:

1963 -- The topic was social studies and literature enrichment.

1964 -- The area of concentration was on science.

1965 -- An omnibus workshop covered the related fields of personal-social, sex, and consumer education.

1966 -- Mathematics was the topic.

1967 -- Vocational education was chosen for the topic.

The series was conceived as a means for suggesting curricular changes and recommending appropriate visual materials to accompany -- indeed, to facilitate -- the suggested changes. In each of the workshop summer sessions, the participants -- usually 20 in each -- have had, therefore, the dual responsibility of:

a. designing improved curricular patterns to up-date each subject area in harmony with national curriculum movements;

b. concurrently evaluating as many contemporary visuals in those areas as time would allow in the five-week sessions.

As an outcome of the workshop sessions, the visual materials most directly applicable to the curricular pattern designed were recommended for distribution by Captioned Films. Also, curriculum guides were duplicated and distributed. Because they were not printed by the Government Printing Office, the guides were produced in a limited number.

The twenty participants were highly educated and experienced teachers who pooled their thinking from the varied educational programs in which they worked. They functioned in small working committees with the assistance of a Resource Director and a Coordinator. While they gained much from each other, their fundamental responsibility was to produce materials and set forth ideas to help teachers of the deaf throughout the nation.

Unfortunately, we have no research evidence to attest to the value or impact of the curriculum guides. However, last year the Project Director sent out a questionnaire to get reactions from the recipients of these materials. Based on replies from this survey, the highest rating was given to the visual materials which were recommended in the guides.

Most of the respondents stated that they found the suggested curricular improvements adaptable to their local situations. Some, however, reported difficulty along this line. The lowest rating was given to the factor dealing with the influence the guides were actually having toward the end of affecting change. In large measure this rating was influenced by the limited number of guides which any one school received.

We received many specific suggestions for improvement of our work, among which were the following:

1. Include more on correlation of language development with the units of instruction;
2. Beware of placing learner expectancy unrealistically high;

in other words, some recipients of our materials felt the suggested grade placement of instructional objectives was inappropriate;

3. Take care, some said, that the guides are not too detailed, specific, and prescriptive.

Much has been gained from this attempt to bring educators of the deaf in touch with curricular innovation. It has been a proving ground for future efforts along this line under the sponsorship

Training Mentally Retarded Deaf

In answer to an apparent need for specific programs for children who are both deaf and subnormal in intellectual function, the Project on Training of the Mentally Retarded Deaf Through Film Media is sponsored by Captioned Films for the Deaf

The Project, which got underway in the fall of last year, is concerned initially with the identification of any existing programs specifically designed to meet the educational needs of such children and with the extent and incidence of cases of such children. In addition, an effort is being made to assess any special learning characteristics they may have. Another phase of the project during the present year deals with the pilot production of film media. This includes an exploration of techniques such as films, film strips, slides, transparencies, study prints, flat pictures, projection equipment and correlated text materials. Special content materials are being developed for interpretation through these media. There is also provision for a limited means of testing of the effectiveness of the produced materials.

These efforts are being accomplished by use of survey and experimental procedures. It is anticipated that by next year the project will be entering into a phase of extended production, evaluation of the effectiveness of the media, and its distribution and dissemination.

Project LIFE

The purpose of Project LIFE is to develop improved language materials for hearing impaired children. The undertaking is sponsored by Captioned Films for the Deaf, U.S. Office of Education, and administered by the National Education Association. The planning phase was spent studying the needs of the profession through questionnaire, school visitations, and advisory committee meetings. During this phase, the concepts of self, physical environment, and social relationships were adopted as the foci around which to develop the language materials. Thus these three concepts became the basis on which a primary language development outline was established, and the outline is serving as a guide for the development of:

1. programmed filmstrips, movie films, and recorded tape--for use on a teaching machine
2. reading materials that utilize the vocabulary, sentence patterns, and language structures taught in the programming, and
3. a series of picture dictionaries accompanied by workbooks.

In addition, a resource committee of the Project studied the language resource materials available on the market in preparation for a primary language resource workshop, which was held at Ball State University, Muncie, Indiana, during the summer of 1966. The workshop related each found resource item to its proper place in the language development outline, for publication as a teacher-training manual.

The teaching machine was built to the specifications of the project staff, by Viewlex, Inc. The programmed materials, which include lessons on thinking skills as well as language, are produced under contract with the Speech Science Unit at The Ohio State University and with the Harry Jersig Speech and Hearing Center of Our Lady of the Lake College, San Antonio. The dictionary is organized by categories for easy use by very young children, and the reading materials are designed by the literature committee and writers to provide the hearing impaired child much needed practice in the development of his reading skills.

The Project materials produced to date will be field tested in the fall of 1967 for such revisions as may be indicated, before being placed on the market.

THE INSTRUCTIONAL MATERIALS CENTER: A CHANGING CONCEPT

by

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Paper prepared for Symposium on Research and Utilization of Educational Media for Teaching the Deaf, April 10-12, 1967, Lincoln, Nebraska.

Sponsored by the Department of Educational Administration, Teachers College, University of Nebraska, and Captioned Films for the Deaf, U.S. Office of Education, Department of Health, Education and Welfare, Washington, D.C.

Miss Carolyn I. Whitenack received her education at Georgetown College, University of Kentucky, and University of Illinois. She was an elementary school teacher in Kentucky for several years prior to becoming a librarian in 1947. From 1947-1950 she was an instructor in the School of Library Science at University of Kentucky and in 1950 accepted the position of school library consultant for the Louisville Public Schools. From this position she became in 1953, Director of School Libraries and Teaching Materials, State Department of Education. In 1956 she accepted the position of Assistant Professor of Library and Audio-Visual Education and is now Associate Professor of Education, and Chairman, Educational Media, Purdue University.

Miss Whitenack is a member of Educational Media Council, American Library Association, National Education Association, Association for Supervision and Curriculum Development, Department of Audio-Visual Instruction, American Association of School Librarians, and others. She is past president of the Indiana School Librarians Association, treasurer of Indiana Association for Supervision and Curriculum Development, and past vice-president of the American Library Association. She is a past chairman of the NEA-American Library Association Joint Committee and the Joint Committee of the American Association of School Librarians, the Association of College and Research Libraries and the Department of Audio-Visual Instruction of NEA. She is past board member and president-elect of the American Association of School Librarians and is a councillor of A.L.A.

THE INSTRUCTIONAL MATERIALS CENTER: A CHANGING CONCEPT

Dr. Gordon Ray, distinguished scholar, began his opeing address to the 1966 ALA with a quotation from Dickens, "It was the best of times; it was the worst of times." The wealth of federal support and the paucity of trained school librarians and audiovisual specialists to aid in planning and directing programs has caused us to agree. We are in the best of times, in that we are obtaining sufficient money to work with; worst, in that we lack competent personnel to take full advantage of this financial support.

First of all, I would like to gi-e you some of the philosophy behind recent developments in instructional resources.

Second, I would like to show you some favorable developments that are taking place in Indiana.

Third, I would like to suggest some of the qualities of leadership needed by persons who direct integrated programs of materials

I will be speaking today from the following points of view:

1. Learning is a very private affair -- personal and individual. Books, films and all library resources go straight to the individual.
2. The content of media is important, not the format.
3. Educational media or instructional materials means the entire range of materials, both print and non-print.
4. Books are among the best developed of our educational tools and are a very important medium today; they are versatile,

adaptable and well respected in the world of audiovisual education, as well as in the world of library education.

5. The newer media are just as personal in instruction as books and are very useful tools in the management of information. It has been stated by well known educators that the so-called new media have been proposed, promoted or projected for so many different reasons and for the solution to so many of our pressing educational problems that one could easily lose sight of the fact that they, like all teaching activities, are a means to one primary objective -- instigating learning and appropriate changes of behavior in students.
6. The school principal is the programmer or planner of the learning behavior policy and the curriculum of the school. The teacher is the director of the learning process. The media librarian and/or AV specialist is a co-director of learning, an associate of the teacher.

Far-reaching changes have taken place in American society and education during the past ten years. Well known social trends include: expansion of population, with a higher percentage in school; changing vocational and ocupational needs leading to new expectations from the school; growing urban areas demanding more services; rapid mobility of people including international travel; mass organization and restructuring of knowledge presenting new problems; and greater concern for quality, as well as a demand for higher levels of education. This changing nature of modern society is changing educational goals, particularly as they relate to the instructional materials center concept.

The modern school program is confronted with a rich variety of resources for learning. These resources include a host of materials and devices from textbooks to television to computers. The aims of education can be defined as individual personal growth and the learning of specified content, or even more simply stated as the teaching of students to think. These aims are interrelated and the task of the teacher is the selection of the best combination of learning resources and experiences to achieve these aims.

The best learning occurs when the student is mentally active -- selecting, responding, making discriminations and value judgments, and taking action upon important ideas, experiences, and resources as they relate to him personally -- in such a way that learning takes place and that further learning is continued on his own initiative.

The greater degree of responsibility now placed on the individual for self-direction, self-learning and self-testing makes the services of an instructional materials center imperative. New arrangements of teacher and student deployment, with new roles for each in the learning process, are characteristic of good schools. One example is Project English which relies on the strength of an organized literature program. Another example is team teaching. Each person has a responsibility delegated by interest and choice, releasing other members of the team for preparation and study; and releasing students to pursue their interests in instructional materials centers. The extended school day makes new demands on the staff and resources of materials centers.

Teachers and materials specialists are deeply involved in reviewing and evaluating teaching and learning materials in all content areas. The many curriculum-content studies -- e.g. AIBS, NCTE, PSSE -- have developed a core of materials -- films, filmstrips, books, tapes, and laboratory materials -- which are being distributed nationally to materials specialists for their consideration. The center needs to provide reviewing services and examination copies, if service will be useful to the curriculum specialists for the improvement of instruction in each subject area. Better ways of grouping students, ungraded classes, ability grouping, advanced placement, accelerated groups, and enrichment classes all demand adequate learning resources to meet the diverse needs of these students.

New schools are being planned as clusters of centers, laboratories, and shops. Spaces for learning resources are in instruction materials centers, individual carrels, in classrooms, in laboratories, and wherever learning takes place.

Teachers, parents, peers and institutions are the sources of many ideas, experiences, and materials. Traditionally, books and libraries have been the primary means of recording and communicating ideas. In recent years there have been many audiovisual materials developments such as programmed learning, tapes, educational television programs, new kinds of projected materials, teaching machines, and other special teaching devices. Each type of material has a contribution to make to the educational process. The distinctive qualities of each resource should be recognized and all appropriate resources should be used in the learning situation.

New approaches in reading have enhanced the utilization of instructional resources. Well designed and illustrated books and many quality paperbacks are available. A multi-media approach to learning demands a comprehensive program of materials with a collection of at least 30,000 items, including books, films, filmstrips, tapes, sets of pictures, slides, transparencies, globes, maps and charts, programmed materials and devices, audio and video tapes, and radio and television programs to meet the varying needs, abilities, and interests of all the students.

Paraphrasing Dr. C. Walter Stone of the University of Pittsburgh, the rationale of professional services from a resource center include three sorts of professional responsibilities in educational media services: (1) To put at the disposal of the teaching faculty all media, technology, services, and systems which will enhance the effective communication of ideas in the presentation phase of learning; (2) To put at the disposal of the students all media, technology, services, and systems which will enhance the effective communication of ideas in a self-programmed phase of learning; and (3) To reinforce the importance of quality education for each child by showing the need for media services and the improvement of individual learning through a wide variety of materials and resources in each school.

On the basis of this rationale an instructional materials program serves the objectives of the total educational program of the school by:

1. Locating, gathering, organizing, coordinating, promoting, and distributing a rich variety of quality learning resources for

use by teachers and students as individuals and in groups;

2. Offering leadership in motivation, utilization, and experimentation in best arrangements of materials for teaching and learning;
3. Making available facilities, services, and equipment necessary for the selection, organization, management and use of learning resources;
4. Furnishing facilities for and assistance in the production of instructional materials, displays, and demonstrations;
5. Counseling and guiding teachers and students in terms of the best media or arrangement of media for the particular situation;
6. Exploring the use of modern technology, including exploratory use of computers in attacking the control and synthesis of knowledge to encourage more learning in less time;
7. Exploring the desirability and cost of central services required in processing the varied learning materials for all the schools of the area.

Such a program must have staff, facilities, collections of materials, equipment, devices and funds. Learning resources include books, films, filmstrips, tapes, recordings, programmed learning, maps, globes, charts, sets of pictures, sets of slides, transparencies, models, realia, videotapes and the like with all the appropriate equipment.

(Miss Whitenack showed sets of slides demonstrating exemplary Library-Media facilities at four Indiana Schools. The four schools were:

1. Allison Elementary near Indianapolis, a Knapp Library

Project school.

2. Bailey Junior High in Gary with a high proportion of disadvantaged students.

3. Munster Jr. High, a team teaching school with a;proximately 700 students.

4. North Central High near Indianapolis, a large school with a Library-Media complex of sixteen rooms for 2,500 students, 85% of whom go on to college.)

Qualities of leadership are needed in persons who are going to direct a media program, or any kind of educational program. My six C's of leadership are as follows:

First of all, people who are Committed. I think that we must have commitments to the goals of education and we must believe in the teacher, the principal and the media person working together in a team effort with a commitment to education.

Second, persons who are Competent. Scholarship, life-long learning, maturity and judgment, making decisions and standing by them, further education in the field in which you are not competent are all attributes of a competent person. I say to librarians you must get audiovisual training; I say to audiovisual people, you must get library training if you are going to be a media person.

Third, persons who are Cooperative. I think that education is not a process by itself. I think it is a team process, beginning with a superintendent, working through the principal, the teacher, and the specialist. All of these people must work together. This is a very difficult task for each of us.

Fourth, persons who are Creative. We need people who aim high and who aim to work in this team process to the best of their ability.

Fifth, persons of Conscience. I think one of the great problems of our time is the social revolution in which we are presently participating. This revolution calls for all the love and understanding that we may have to be people who work creatively to help these newly developing people in our own country and in other countries to have a better opportunity.

Sixth, if you are all of these five, then you must be Courageous. It takes courageous persons to accept a plan of operation, to direct this plan, and once convinced that this is your dream, to stand by it and push it. The task needs courage to be different, courage to drop some of the old ideas that we have had, courage to be concerned about the truth as we know it today, knowing that truth is ever changing.

I end with one of my favorite quotations from Virgil's "Aeneid", "Some of these things I saw, and some of them I was." I think in this audience there are many "I was" people, and I am delighted to be here. I hope to get to know each of you, and I look forward to visiting with you in the discussion groups. Thank you so much for this opportunity to talk with you.

1967 SYMPOSIUM ON RESEARCH AND UTILIZATION OF EDUCATIONAL MEDIA FOR TEACHING THE DEAF: "THE EDUCATIONAL MEDIA COMPLEX"

Reading List

THE IMC CONCEPT

by
Carolyn I. Whitenack
Associate Professor
and Chairman
Educational Media
Purdue University

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EDUCATIONAL MEDIA CENTER - THE LIBRARY'S NEW LOOK

by

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Paper prepared for Symposium on Research and Utilization of Educational Media for Teaching the Deaf, April 10-12, 1967, Lincoln, Nebraska.

Sponsored by the Department of Educational Administration, Teachers College, University of Nebraska, and Captioned Films for the Deaf, Office of Education, Department of Health, Education, and Welfare, Washington, D. C.

Marie McMahan, Associate Professor of Education and Audiovisual Consultant, Educational Resources Center, Western Michigan University, is working on a degree of Doctor of Education in curriculum and educational media at Michigan State University. She received her B.S. degree from Western Michigan University and her M.A. degree from the University of Michigan.

Miss McMahan has had a broad background in the audiovisual field, serving first as a classroom teacher in the Battle Creek, Michigan school system, then as the city-wide Audiovisual Consultant for that school system. During this period she also taught summer classes in audiovisual methods at the University of Michigan, Michigan State University, and Western Michigan University. In 1961 she joined the staff of Western Michigan University.

Miss McMahan has been active in state audiovisual activities, having served as executive committee member, vice president, and president of the Michigan Audiovisual Association. For the DAVI she has served as a member of the board of directors and on a large number of important committees. Also she has been a speaker or demonstrator at various convention sessions.

Her writings include articles in Audiovisual Instruction, Educational Screen, National Elementary Principal, The Instructor, and The Michigan Education Journal. She has served as editor of the state newsletter The Michigan Audiovisual Educator, the 1956 yearbook of the Michigan Audiovisual Association In-Service Education in Audiovisual Methods, and the Battle Creek Public Schools publication Audiovisual Ideas--Let's Try Them! Her most recent writing effort is a chapter to an audiovisual publication soon to be released by Rand McNally.

EDUCATIONAL MEDIA CENTER - THE LIBRARY'S NEW LOOK

Never in recorded history has teaching been as challenging an endeavor as it is today. There are several reasons for this: (1) Knowledge is doubling at fantastic rates, some say every two years.[1] (2) The population explosion is providing ever-increasing numbers of students to be taught. (3) Printed materials, formerly the almost exclusive source of information, have now been joined by motion pictures, instructional television, teaching machines, the computer, and various other technological devices.

Teaching today, then, is no longer a matter of assigning Pages 12 to 20 in the textbook. It is, rather, a task of determining what content of the vast storehouse of knowledge is most important to be taught, how to convey it most effectively to increasing numbers of students from increasingly diverse cultural and experiential backgrounds, and which tools to employ to communicate the selected knowledge to pupils in the most efficient and meaningful way.

Although selection of instructional materials is an area about which we, as educators, do not yet know nearly enough, it is obvious to all of us that one of the primary factors in selection is the thoughtful analysis of the backgrounds and needs of the group of students to be taught. Teachers of the deaf will find traditional teaching methods, as well as some of the media used in presenting information to groups of pupils, inappropriate for their teaching situations. Happily, however, many of the new media and the new ways of working with media are singularly appropriate for use by the teachers in your schools and strikingly useful in meeting the rather specialized needs of your pupils.

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[1] Brown, James W., Lewis, Richard., and Harcleroad, Fred F., A-V Instruction Materials and Methods (New York: McGraw-Hill Book Company, Inc., 1959.

I wish it might have been possible for me, before preparing this paper, to have visited you in your schools, watched your pupils and teachers at work, and discussed with you some of their unique problems. Since this was not possible, let me attempt to relate my experience in what an educational media center should be to your specific area, and, hopefully, during the discussion period we can communicate ideas to each other that will help us all grow in our concept of a functional educational media center for a school for the deaf.

It may be useful, first of all, to attempt to identify the types of materials that we might expect to find in such a center. Since print materials of all kinds--books, periodicals, newspapers, pamphlets, encyclopedias, and all the rest--are essentially devices for use by individual students and devices which employ only the sense of sight, there will need to be an abundance of these in the media center. In its 1960 publication, Standards for School Library Programs, the American Library Association specifies rather carefully the minimum standards regarding amounts of print materials that should be available in schools of various sizes. This publication, I understand, is to be superceded by one combining ALA and DAVI standards, but, until such time as the new one is available, you will find the 1960 version very helpful. It occurs to me, however, that, since your schools rely so heavily on visual materials, you will probably want to work toward a goal of a book collection somewhat in excess of that recommended by ALA.

In addition to the collection of print materials your educational media center will need to consider a variety of other types of visual materials currently available. These include such things as captioned motion pictures, filmstrips, slides (2x2 and microprojector), overhead projector transparencies, opaque projector strips, teaching machine programs, maps and globes, three-dimensional materials such as objects, models, and dioramas, demonstration materials such as flannel board sets, display materials such as bulletin board layouts, and graphic materials such as charts and diagrams.

Some of these materials should be available for short or long-term loan to individual classrooms, some for use in students' homes or dormitories, and some for independent use in the educational media center itself.

In discussing the functions, services, and facilities of the media center, I am tempted to begin with those which are most important--namely, those related to helping teachers and pupils do an effective job of selecting and utilizing materials to the end that specific educational objectives are achieved. This is the sine qua non of an effective media program. However, many supportive services are needed if the ideal is to be reached. I shall begin, therefore, with the kinds of supportive functions and then deal with utilization and facilities.

SUPPORTIVE SERVICES OF AN EDUCATIONAL MEDIA CENTER

Selecting Materials and Equipment for Purchase

If you wish to achieve the twin ideals of procuring the most functional collection of materials and assuring their optimum use by staff members and students, it is extremely important that teachers of specific subjects and grade levels be involved in the selection. One workable system for selection of materials operates in the following manner:

1. The media specialist[1] keeps teachers informed about new materials in their areas of interest (or in some cases teachers call attention of the specialist to new materials of which they have become aware).
2. To supplement his own judgement the media specialist obtains feedback from teachers regarding areas in which the materials collection is weak.
3. Previews are set up and materials for possible purchase are viewed by the teachers who will use them.
4. Final decisions regarding purchase are made by the media specialist in relation to the budget and the current state of the materials collection.

Book selection may be somewhat less formal than this, but the greater cost and longer life of many audiovisual materials make it essential that we select the best one of several materials on a given topic and that we select one which is in no immediate danger of becoming outdated. Therefore, the classroom user of the material needs to be rather extensively involved in its selection.

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[1] Media specialist, as used here, refers to librarians and/or audiovisual specialists.

Most producers of media will send materials to a school for a period of a week or two on a preview basis at no charge. For a comprehensive list of sources of materials, see the January 1967 issue of Audiovisual Instruction.

If selection of materials is to contribute to the in-service growth of teachers, it is important that we present to them (or better still, develop with them) basic criteria to be used in evaluating the various types of media.[1]

All of you, I'm sure aware of the proliferation of types of audiovisual equipment available for use in schools. Selection of equipment is a critical task, even for those who work with it constantly. Several suggestions regarding a standardized procedure for equipment evaluation may be helpful in making this kind of decision:

1. Types of equipment to be purchased should be based on:
    a. The carefully defined goals of instruction in the school system,
    b. The modes of instruction most appropriate for pupils in the school (large group instruction, individualized instruction, etc.), and
    c. An up-to-date inventory of what is available and its mechanical condition.
2. Specifications should be set up for each kind of equipment. (Namely, what considerations are most important to you in a motion picture projector--that it be portable, that it employ automatic threading, etc.?)

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[1] Sample preview forms will be available at the symposium.

3. Equipment models from more than one company should be evaluated at the same time, enabling you to compare them as regards the above criteria. (It is much easier to determine which provides more light on the screen, which operates more quietly, etc., when comparing them simultaneously.)

It is less crucial that teachers be involved in the actual selection of equipment. Here perhaps the administrator and media specialist will wish to have the assistance of an electronics person or technician.

Facilities for preview of materials will, of course, include a windowless or darkened room, with convenient electrical outlets and of adequate size to project materials and to seat any grade level or departmental group involved in selecting materials.

Classifying and Cataloging Materials

An abundance of materials is of little value unless teachers and pupils know they are available and understand how to locate them. Media people and teachers have debated for years the relative advantages of different methods of classifying and cataloging materials. Needless to say, each method has some advantages and some disadvantages, and the method that is ultimately chosen depends on which kinds of advantages are most important in your specific school. It is impossible for me to explore this problem in any depth in this paper, but several general observations may be in order:

1. One of the great advantages of a book-nonbook educational media center is the inclusion in the card catalog of all types of materials under appropriate subject matter headings. At the moment catalogers do not unanimously favor the same

classification system, nor is there much uniformity with regard to methods of cataloging nonbook materials except that most systems involve some kind of color coding to denote different types of media. To dispel some of the diversity in cataloging, the Michigan Association of School Librarians has recently published a booklet identifying one very satisfactory way of organizing a card catalog that incorporates the various media.[1]

2. Whether the card catalog, useful as it is, remains the only way of informing teachers of the availability of materials is an important question. My own experience in this regard suggests that it is advisable to alert teachers to the availability of materials in as many ways as possible. My teachers used to want a catalog of their own "so that I can take it home with me when I'm doing my advanced planning," and so we devised listings for various grades and departments, correlating available audiovisual materials with the basic texts used at the different levels. Although teachers were very happy about this solution, it is frequently not a practical one from the point of view of staff time. Other helpful alternatives include incorporating materials in resource units and curriculum guides, sending out brief newsletters advertising new materials and discussing new media in individual conferences with teachers and pupils.

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[1] DeYoung, Julia M., Cataloging Manual for Non Book Materials in Learning Centers and School Libraries (Ann Arbor, Michigan: Bureau of School Services, University of Michigan, 1966).

3. Preparation of card catalogs, although we are dealing with rapidly increasing numbers of media, may well become simpler for the individual school because of several developments--more cards available from such agencies as Library of Congress, central state agencies doing cataloging of ESEA materials, and new cataloging systems handled by computers.

Storage of Materials and Equipment

Before making specific decisions about storage of materials, several basic questions need to be answered:

1. Will storage be open or closed--i.e., will teachers and pupils have access to the library stacks and to the audiovisual storage areas or will they request materials from a member of the staff?
2. Will audiovisual and book materials be stored together or in separate areas in the center?
3. Will materials be arranged on the shelves according to Dewey Decimal number, Sears Subject Headings, units and topics taught by teachers in the school, accession number (i.e., numbers assigned to materials in order of purchase), or by a combination of these methods?

If teachers and pupils are allowed to browse in the stacks and storage areas, it seems desirable to shelve materials by Dewey Decimal, Sears, or subject matter groups rather than by accession number. Needless to say, each item of material must be carefully labeled, either with Dewey Decimal number or with shelf and position number so that all people working in the center will be able to reshelve it in the proper place.

Centers differ as to whether to house print and non-print materials in the same area. Since some of the audiovisual media are relatively expensive, it is important that they be housed in an area where there is good control. If this can be done and if the area is of adequate size to house comfortably the various kinds of cabinets needed for the variety of materials handled in an educational media center, it would seem desirable to store both print and non-print materials in the same general area, thus again making it possible for teachers and pupils to readily obtain any materials needed for a given unit or topic.

The American Library Association's handbook on library standards gives excellent assistance by specifying types of shelving needed for various print materials. Audiovisual materials, being of a variety of sizes and shapes, need diverse kinds of cupboard space. It is possible to procure commercially-produced metal shelving units for motion pictures, records of various sizes, and tape recordings. Filmstrips are usually stored in drawers in metal cabinets, each drawer holding approximately fifty strips. Legal size files, with three drawers rather than four, are suitable for most pictures and for overhead projector transparencies. All of these materials can, of course, be housed in wooden cupboards, custom-built to handle the sizes of materials available. Custom-built units with tall, narrow, vertical storage slots are suitable for standup materials such as flannel boards, magnetic boards, and portable chalkboards while units with shallow, pull-out shelves are ideal for mounted charts and large flat items of various kinds.

Equipment storage should consist of cupboards with adjustable shelves so that projectors of various sizes and shapes can be accommodated. One helpful suggestion in a center which will be manned largely by women is to house heavy equipment on shelves that are at the same height as the tops of projector carts so that a piece of equipment can be rolled in on a cart and moved over onto a shelf without lifting.

Women who plan storage facilities are invariably accused of being *cupboard happy,* but having experienced planning a couple of centers and having discovered how soon one runs out of space, I must advise specifying adjustable storage so that materials can be moved along the shelf as the collection grows and requesting at least a third more storage than appears to be needed in order to allow for growth.

Since audiovisual equipment is expensive, it is desirable to house it in an area that is not open to the general public, that has a divided service door that can be locked.

Scheduling Materials and Equipment

Librarians, through long (and sometimes sad) experience, have devised excellent procedures for scheduling, knowing the location of, and retrieving print materials. A scheduling system for audiovisual materials tends to differ in that teachers, having to schedule the necessary equipment for using a projected aid and wanting to use it on the exact day that it best fits their instruction objective, often need to book materials several days or more in advance. One of the most satisfactory systems for scheduling audiovisual materials is to use the Kardex cabinet in which there is a card for each item of material, this card containing all the dates for school days throughout the year.[1] When a film is requested, the booker can immediately determine, by consulting the card for that piece of material, whether it is available at the time requested. If available, it can be scheduled and the booking confirmed; it not, the person making the request can be notified as to its exact date of availability.

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[1] Sample Kardex cards will be available at the symposium.

Since items of audiovisual equipment are often used a number of times a day, bookings for these are frequently handled by means of a large wall-mounted scheduling form which lists the hours, the day, and the items of equipment. As a request is made for a piece of equipment, the teacher's name and room number are posted in the proper place on the schedule.

Teachers are, as all of us know, exceedingly busy people. Routines for procuring materials and equipment need to be as simple as possible. Conversely, materials centers need to have adequate ways of requesting and checking out materials,[1] checking them back in, knowing where they are, and keeping records of amount of usage. To achieve adequate (but not too much) control is a skill that is very important to the staff of an educational media center.

Distributing Materials and Equipment

An educational media center in a single building (and hopefully on a single floor) has a definite advantage over a center that serves a whole school system. Frequently, materials, print and non-print, are picked up by teachers or students for use in classrooms or are used in the center itself. A much-appreciated service in many schools is that of the delivering and projecting of audiovisual materials for teachers. In most cases this is handled by a corps of responsible student projectionists who have been trained by the media specialists

[1] Sample forms will be available at the symposium.

to set up and operate equipment and do *simple* trouble-shooting. Such a service, while giving the student a feeling of making a valuable contribution, also frees the teacher for the instructional task involved in using educational media.[1]

Just as book carts are imperative in the print area of the media center, so projector carts are a "must" in the audiovisual section.

If the school consists of more than one floor or of several wings, it is desirable to have a supply of the most-used equipment available in locked cupboards in different parts of the building, this to be controlled and distributed in the same manner as that in the media center.

Maintaining Materials and Equipment

An essential part of the media center is the library workroom in which such operations as preparing books for circulation, cataloging, and mending are done. Again, ALA standards specify what such an area might be like.

Audiovisual materials and equipment also need special care. After being *checked in* following use, motion pictures should be run through an editor to be inspected for sprocket damage or breaks. It is desirable to check filmstrips, pictures, and records for damage, but, since an expensive film improperly mended with Scotch tape, can be extensively damaged in one showing, film checking and repair are both imperative and a good investment.

Equipment maintenance, as any teacher can tell us, is one of the

[1] Sample projectionist training sheets will be available at the symposium.

keys to a successful media program. Simple care, such as cleaning of lenses, brushing out of film gates, and changing of lamps, can be done by responsible students. If the school does not have a competent electronics person, the best solution to maintenance more complex than simple trouble-shooting is usually to purchase equipment through responsible local dealers who perceive good service as a necessary aspect of their relationship with the school.

The equipment for maintaining audiovisual materials may be set up in the library workroom if desired. Equipment maintenance is more logically located in a separate room which has cupboards for housing equipment, counters or simple booths for equipment operation training, and counter space (with a pegboard in back upon which to suspend tools and supplies) for maintenance purposes.

Processing and Inventorying Materials and Equipment

As print materials are processed and cataloged, a shelf card is prepared for each, and this is placed in a permanent inventory file. Non-print audiovisual materials, if cataloged in the same manner, can become a part of this media inventory.

There are a number of items of desirable information concerning owned equipment, including such things as: vendor, date of purchase, price, trade-ins (if any), accessories, dates and kinds of repair. A simple inventory card[1] can be prepared for each piece of equipment, with an equipment number placed both on the card and on the projector. These cards are kept on file. In addition, a general inventory check list with the names, numbers, and locations of all pieces of equipment

[1] Sample inventory cards will be available at the symposium.

should be prepared and used periodically, perhaps once a month, to ascertain whether all pieces of equipment are, in fact, available in the area to which they have been assigned.

You will recall that, much earlier in this presentation, I indicated a desire to think with you about ways in which the media center can facilitate the selection and use of materials by teachers and pupils. Having exercised, for me, a remarkable degree of control and having attempted to define, at least to a limited degree, the supporting services required in a media center, I would like to proceed now to what I consider the dessert--identification of the ways in which the library of 1967 can facilitate good learning in a school.

UTILIZATION OF INSTRUCTIONAL MATERIALS

Helping Teachers and Pupils Select Materials

As indicated earlier, teachers and pupils today are faced with a wealth of instructional media. This makes the task of selection both more difficult and more stimulating. Two outstanding developments in the materials field in recent months have emphasized media at opposite ends of the teaching-learning continuum--namely, materials for large group instruction and those for self-instruction, or to put it another way, those for teaching and those for learning. I would like to explore with you the selection and utilization of both of these general types of media, placing primary emphasis, however, on those for individual learning which I believe to be more pertinent for your particular pupils.

Librarians have always had great skill in helping a teacher or child select the best book, periodical, or pamphlet for a specific teaching or learning task. There has always been concern about the task--what specifically needs to be taught or learned? There has always been concern for the student. What kind of background did he have for the task? What kinds of interests did he have? Was he motivated? Did he learn quickly or slowly? Did he need to be challenged to greater achievement?

Now we need to add to these two concerns an additional one related to new and unique types of teaching-learning materials. Our task is to match the media with the content to be learned. We need to decide whether a specific concept requires motion to be understood (if so, perhaps we should use a model), or necessitates seeing sequential relationships (if so, maybe an overhead transparency with overlays is needed).

Since some of the new media have developed so rapidly, we have not yet really faced the issue with teachers of what is the best material for this specific concept, attitude, or skill. And, too, we have been forced at times to accept an inadequate item of teaching material because the right one was not available when and where needed. An educational media center with a reasonably adequate collection of media and a competent professional staff can help us face this situation in a more effective manner.

Let's assume now that we do have such a center and such a staff. How can teachers and pupils be assisted in selection of appropriate materials? A media specialist works with teachers in many ways, among which are:

1. Helping individual teachers locate materials for units they are teaching,

2. Working with curriculum committees, grade level groups, or departmental groups in selecting materials for specific units or topics,
3. Assisting book selection and audiovisual preview groups in evaluating materials,
4. Setting up displays of new materials or materials for special days and weeks, and
5. Holding open house for new teachers.

Maintained in the media center besides the card catalog and the owned materials collection are such selection aids as the Educational Media Index, book catalogs, catalogs of free and rental films, filmstrips, records, and tapes from outside sources, and a community resources file to which teachers may have access.

By working with staff members, individually and in groups, the media specialist attempts to help them build adequate criteria for selection of media, especially those that have come into existence so recently that teachers have little familiarity with them.

Helping pupils select materials is an equally important and more complex skill. A major area of concentration for school librarians has been that of scheduling sessions with classroom groups in which library procedures and skills have been taught--use of the card catalog, the Reader's Guide, the encyclopedia, among others. Fortunately, many new media are available to help with this task--things such as filmstrips on use of the library, transparencies illustrating card catalog cards, programmed materials emphasizing library skills.

Although the task of helping pupils develop skill in use of media is becoming simpler in some respects, it is becoming more complex in others. Newer media centers are being developed on the principle that many media other than books can be used by students for individual learning.

Last year I visited a materials center in California to which students came to use self-instructional programs. Sometimes they came because they were having difficulty with a subject and needed additional background; sometimes a whole class was given the assignment of working through a program before that specific topic was introduced for discussion in class. The programs in this center were primarily in print form.

In the media center, 1967 style, a student can use many materials other than books for self-instruction. Among these are 8mm cartridge-type films, filmstrips, picture sets, manipulative objects, models, flannel board sets, maps, globes, diagrams.

Here, through working with children on individual or group problems, the effective media specialist can assist them in developing important selection skills. He can make them aware of the importance of asking themselves such questions as: Does this material contain information pertinent to my topic? How can I evaluate the authenticity of this material? Is this the best medium for obtaining this specific type of concept or understanding?

Helping Teachers and Pupils Utilize Materials

All of the functions that we have considered thus far have been to achieve the ultimate objective of good utilization of media. For media are not, as some people would have us believe, ends in themselves.

They can be justified only if they help us to teach and to learn more effectively.

In providing in-service education in effective use of media, the librarian may, again, operate individually or with established groups. Some media specialists are beginning to work with teachers in what is called "systems development," in which, together, they take a content area, specify the behavioral objectives that students should exhibit after the content has been communicated, select the specific media or combinations of media that will best communicate the content, and identify in a specific manner how the media will be used to convey the desired content. Although much more of this kind of planning for media utilization will be seen in the future, we usually begin at less sophisticated levels.

A media specialist, in conferring with a teacher, may suggest specific materials for use related to the content area and, perhaps, identify ways in which he feels they can be used. In working with groups, the specialist may demonstrate in general how he perceives media as being used in teaching a subject (i.e., how various types of media can contribute to the teaching of the new math); how media may be used in developing a specific unit (i.e., how motion pictures, newspapers, etc. may be used in a unit on propaganda); or how specific types of media or equipment may be used in various area (i.e., how the overhead projector may be used in teaching history, science, business education, driver education, etc.).

The media specialist engaged in in-service education with his teachers will do well to remember several key criteria for effective in-service education:

1. The most effective in-service education occurs when the specialist is invited to participate in staff, grade level, departmental, or committee meetings. If he is perceived to be willing and to be helpful with the problems that are important to teachers, he will be invited.
2. The most effective in-service education occurs when the specialist concentrates first on problems that are of concern to teachers. "Rome," as the saying goes, "was not built in a day." A media specialist who meets teachers first at their own level of need and of thinking is much more able to lead them on to more advanced levels.
3. The most effective in-service education occurs when the specialist involves teachers. Teachers are creative people; they have a wealth of ideas about good use of media, and they will listen to each other. The good media specialist finds numerous ways to facilitate teachers' communication with each other about effective utilization techniques: demonstrations, sharing sessions, newsletters, slide sets depicting good use of media, perhaps even videotapes.

Helping students use media effectively is becoming more crucial to the librarian as additional devices for independent learning begin to appear in the library. Now he must deal with the question not only of how does one read printed material in order to gather and evaluate needed information but how does one read a picture, a filmstrip frame, the visual in a cartridge film, a map, or a graph to gather and evaluate information. I do not intend, at this point, to intimidate any potential future librarians. I mean to say only that, as devices for independent study increase (and I believe they should and will increase), we must extend our procedures for helping students develop effective independent study skills in use of these additional media. I would like, at this point, to make two generalizations:

1. Every teacher is, as has been said, a teacher of reading. Teachers and librarians have, in the past, given students assistance with strategies for reading visual as well as print materials. They need, now, to extend and refine this kind of assistance.
2. The problem posed by the coming diversity of materials for independent learning may be, in large part, solved by these same materials. Is it not possible for self-instructional materials on how to read and learn from pictures, filmstrips, slides, maps, globes, and tapes to be prepared and appropriate ones used by pupils prior to their involvement with an independent learning device?

Using media for discovery of what one wants and needs to know is seen in different perspective by different researchers. Suchman, in his very interesting and provocative studies at the University of Illinois, postulates that students should engage in the discovery process with a minimum of adult guidance and assistance. This largely self-directed kind of discovery through use of appropriate media might occur in the educational media center. Others indicate that students should have more assistance in using media to discover what they need to know. Very rich experiences in independent learning can be made available to students by preparing appropriate questions and commentary to accompany cartridge films, slides, pictures, maps, and other materials for use in carrels in a media center.

The implications of the additional emphasis on independent learning for the library, 1967 version, are obviously extensive. The new media center will undoubtedly need a self-instructional area in which not only programmed books but other kinds of materials mentioned above may be used. This should consist of carrels,[1] isolated to some degree from each other, in which students can work independently with books, cartridge films, filmstrips, pictures, transparencies, and other instructional media. At the present time a student, pursuing a specific learning problem, might check out at the library desk a package consisting of a filmstrip, several transparencies, and a brochure containing questions and suggestions, take them to a carrel in which there was a filmstrip viewer, and use them; or he might, having checked out an 8mm cartridge film, a map, and a set of questions, go to a booth having a cartridge-type film projector.

Another solution, if equipment is limited, is to have him check out both materials and equipment and take them to an empty carrel for use. Some universities and school systems are currently experimenting with dial retrieval of audio and/or visual materials for use in carrels, thus allowing a student to obtain by use of a special telephone-type dial set-up whatever audio or visual device he needs for independent study. This kind of system, when perfected, will greatly simplify the life of the media specialist. Until such time, however, that this automated set-up becomes feasible, both from an economic point of view and from the point of view of adequate software to use in the system, if appears desirable that the librarian work closely with students in the selection of appropriate media packages for independent learning. In any event, automated situations should probably not be introduced until the student has been exposed to many basic experiences in how to select and use media for specific learning purposes.

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[1] Illustrations of various types of carrels will be available at the symposium.

Helping Teachers and Pupils Produce Media

It is becoming increasingly obvious that in the schools of 1967 we can no longer assume that all, or even an amount approaching all, of the needed teaching and learning materials can be commercially produced. This is true in every school but even more dramatically so in schools like yours where pupils have specialized problems and needs. I have been hypothesizing in the previous section that many of the currently available media can be useful for your teachers if incorporated into packages in which content is conveyed by other than audio means and for your pupils if they are given adequate assistance in how to learn independently from various types of media. The latter type of material, I assume, will become increasingly available from commercial concerns; the former type perhaps to some degree available as more federal programs are initiated to provide for the special needs of the deaf. In both situations, however, it seems to me crucial that you think in terms of media centers with production facilities and one or more competent graphics persons. Decisions made by a professional team of teachers, subject matter specialists, and media specialists with regard to needed materials (ones not currently available from commercial producers) should be implemented by a school production department capable of making at least simple devices such as slides, transparencies, flannel board sets, objects and models, and instructional packages of various kinds.

Several types of organizational patterns can be developed to facilitate such production:

1. The production specialist can assist teachers and/or students in learning production techniques and can advise them as they produce materials.
2. The production specialist can work in the actual preparation of materials with a student production team composed of pupils with art and industrial arts competencies.
3. The production specialist can assume total responsibility for making the materials requested by teachers.

Since production is an extremely time-consuming endeavor, the last solution is not adequate unless graphics needs are few or unless there can be more than one specialist.

I am aware that another speaker will deal rather specifically with production needs for schools of the deaf, so let me say only, at this point, that the media center should include the following:

1. Equipment for lettering, picture mounting, picture laminating, transparency making, model making, production of photographs, slides, filmstrips, and hopefully, 8mm motion

pictures and videotapes.

2. An adequate stand-up counter space on which to place the non-photographic kinds of equipmdnt and adequate table space on which to do lettering and production of flannel and bulletin board materials.
3. Counters so planned as to include adequate shallow, pull-out shelves for storage of up to 30 x 40" sheets of poster-board and other production supplies.
4. Electrical outlet strips placed along the tops of all counters, with an adequate supply of current to facilitate the simultaneous operation of the various heat presses and transparency-producing machines.
5. If photographic production is to occur, darkrooms in which developing, washing, drying, printing, and enlarging of films can occur as well as areas in which copying of slides, flat pictures, maps, charts, and other media can take place.
6. Adequate locked storage for cameras and accessories.
7. A photographic studio in which are available the appropriate lights and equipment for making 8mm films and videotapes. However, fast films and fast camera lenses tend to facilitate the taking of pictures in classrooms, and you will want to weigh the advantages of a more finished production in making a decision as to whether to photograph in the media center or in classrooms.

How large the production area in a school will be is dependent on how many persons you are likely to have working in it at one time. It must be remembered that production equipment and materials are often bulky and that the efficiency of the operation can be greatly handicapped by quarters that are of inadequate size.

FACILITIES

I am aware as I discuss the functions of an educational media center, 1967 variety, that they are extensive and may, from one point of view, seem rather overwhelming, and yet, I believe it is obvious that teaching and learning in these times, and especially in schools where there are specialized needs resulting from educational handicaps, cannot proceed adequately without the multiple services of such a center. Obviously, these services cannot be provided in the absence of an adequate staff of trained media specialists, the numbers depending on size of school and assistance to be provided. Others will be discussing personnel needs of the media center so let me attempt to summarize the types of facilities with which we need to be concerned, including a recapitulation of facility needs discussed in previous sections of this paper. Briefly, I believe they are as follows:

Reading Areas

Reading areas in which up to ten per cent of the students can simultaneously work with books and other printed materials.

Storage Spaces

An area or areas in which can be housed, in adequate adjustable, expandable storage spaces with adequate space for people to move about them, books, periodicals, vertical file materials, motion pictures, filmstrips, slides, flat pictures, transparencies, demonstration sets, three-dimensional materials, maps, globes, charts, and kits containing combinations of several media.

Work Area

A work area in which members of the staff with some help from student assistants can process, catalog, inventory, prepare for circulation, check, mend, and do simple maintenance of the various types of media.

Circulation Area

A circulation area in which students and staff members can consult the card catalog and other media source lists, request assistance from the media staff regarding specific teaching and learning problems, and check out for use in the center or other places the desired materials.

Teacher Preview Area

Individual and small group areas in which individual teachers can preview materials for possible use with students, and groups of teachers can evaluate materials for possible purchase by the media center.

Independent Learning Areas

Individual and small group areas in which single students or committees can use packages of self-instructional materials for independent or small group learning.

Equipment Area

An equipment area in which (a) adequate adjustable, expandable storage space is available for the various kinds of projection equipment housed in the media center, (b) floor space is available for sufficient numbers of projection carts, (c) counter and/or booth space is available for teaching equipment operation, (d) counter space is available for evaluating and maintenance of equipment, (e) pegboard and/or adjustable cupboard space is available for storing projector accessories and tools for simple maintenance, and (f) electrical outlet strips are available with sufficient current to operate several projectors simultaneously.

Production Area

A production area or areas in which there is adequate equipment, counter and work table space, and electricity for implementing the desired kinds of production, together with adequate darkroom and photographic studio facilities for providing the desired photographic and videotape services.

Classroom-workshop Area

A classroom-workshop area in which groups of students can be accommodated for sessions pertinent to the development of library skills, and teachers can be accommodated for in-service and workshop activities. A multiple purpose area of this sort would probably contain movable tables and chairs, an instructor's demonstration station at the front of the room with capability of controlling all lights and all projection devices from this position, built-in display space such as bulletin boards and display cases, built-in demonstration facilities such as chalkboard, felt board, and pegboard, facilities for using closed circuit or videotape programs if desired, and adequate counter space and electrical circuits for use of any production equipment needed for workshops.

Office Space for Members of the Media Staff

Functionally, depending on the number of people to be served and the amount of time needed to provide adequate amounts of the various suggested services, two or more of the above-described areas may be combined. For example, multi-purpose independent learning and preview areas may, in some cases, be developed. It is possible to incorporate production facilities into the above-descirbed classroom-workshop area although this tends to inhibit the efficiency of the graphics staff member if the classroom area is used frequently. These kinds of decisions will have to be made by individual administrators and staffs on the basis of the kinds of services that are valued most.

Good teachers are, and have always been, an essential ingredient of a good school. Because of the proliferation of knowledge, of numbers of students, and of number and kinds of teaching tools, and because of increased recognition of differences in the physical capabilities and cultural background that students bring to the learning situation, teaching is more complex than ever before.

A well-planned, organized, and staffed educational media center makes it possible for the teacher of 1967 to deal with these multiple developments not as threats that have the capability of making him ineffective but as challenges that will make it possible for him to do a better-than-ever job of serving the education needs of his students.

A summary* of the major quantitative standards for school library programs[a]

Type of collection[b]	Delegated administrative responsibility	Location in the school	Annual expenditures	Size of the collections[c]	Personnel
The collections of printed materials					
The collections in the school library	Head School Librarian	1 School library area or areas, with seating space for at least 45–55 in schools with 200–550 students or fewer and for 10 per cent of the student enrollment in schools having 551 or more students. 2 Classroom collections on short- or long-term loans from the school library.	1 Funds for regular library books: In schools having 200–249 students . . . at least $1,000–$1,500. In schools having 250 or more students . . . at least $4.00–$6.00 per student. 2 Additional funds as required for: Encyclopedias, unabridged dictionaries, magazines, newspapers, pamphlets. Rebinding. Supplies and equipment.[d]	1 Books: Minimum size of the collections in schools having 200–999 students. . . . 6,000–10,000 books. 1,000 or more students . . . 10 books per student. 2 Magazines: a At least the following number of titles in the general magazine collection in Schools having Grades K–6. . . . 25 Schools having Grades K–8. . . . 50 Junior high schools. . . . . 70 Senior high schools. . . . . .120 b Plus at least 5 titles in the areas of librarianship and instructional materials. 3 At least 3–6 newspapers. 4 An extensive collection of pamphlets covering a wide range of subjects.	1 Librarians: For the first 900 students[e] or fraction thereof: 1 librarian for each 300 students or major fraction thereof. For each additional 400 students or major fraction thereof: 1 librarian. 2 Clerks: 1 clerk for each 600 students[e] or major fraction thereof.
The collection of professional materials for the school faculty	Head School Librarian	A separate room, either as part of the school library suite or in another part of the school.	1 For materials, a minimum of $200–$800, depending on the needs and size of the faculty and the availability of other collections of professional materials in the community. 2 Funds for supplies and equipment.[d]	1 Books: At least 200–1,000 titles, the number depending on the needs and size of the faculty and the availability of other collections of professional materials in the community. 2 At least 25–50 professional magazine titles. 3 Other instructional materials as needed.	
The collection of supplementary materials (Sets of supplementary texts; classroom reference materials)	Head School Librarian	1 May be housed in a separate area, in the textbook room, or in storage-stack space of the school library. 2 Classroom collections on short- or long-term loans.	1 Funds allocated as needed. These funds are in addition to those recommended above for the school library and for the faculty collection. 2 Funds for supplies and equipment.[d]	1 The size of the collection depends on the needs and enrollment of the school. (Extensive use of school library materials and individualized reading and instructional programs tend to reduce the size of these collections considerably.) 2 The type and number of reference materials purchased for classroom use depend on local school policy.	Library clerks as needed in addition to those provided for the school library and audio-visual collections.
The collection of audio-visual materials					
	Head School Librarian or Co-ordinator of Audio-visual Materials, depending on local school policy and organization	1 The audio-visual center (may be part of the school library suite or a separate center near the library). 2 Classroom collections on short- or long-term loans.	1 Not less than 1 per cent of the total per pupil instructional cost ($2.00–$6.00) for the acquisition of audio-visual materials. 2 Funds for supplies and equipment.[d]	1 A sufficient number of all types of audio-visual materials for use in the classrooms, in the school library, and for home use. 2 Films used six or more times a year are purchased. 3 Filmstrips and recordings used more than once a year are purchased.	1 When the head school librarian has partial administrative responsibility for audio-visual materials, the number of librarians and the number of clerks are each increased by 25 per cent. 2 When the head school librarian has full administrative responsibility for audio-visual materials, the number of librarians and the number of clerks are each increased by 50 per cent.

[a] For schools having 200 or more students. For standards for library programs in schools having fewer than 200 students, see Chapter 12; for libraries in new school buildings, see Chapter 11.

[b] The collection of free or rental textbooks is not included in this chart.

[c] In the case of some schools, these collections may be supplemented by materials received from district or central depositories of materials.

[d] Funds for supplies and equipment are provided in amounts sufficient for the needs of the school.

[e] The school having 200 students has a full-time librarian and a half-time clerk.

* This summary table is to be used *after* the complete text of the book has been read. These quantitative standards must be interpreted in relation to a complete and active school library program.

QUANTITATIVE PERSONNEL, MATERIALS, AND EQUIPMENT STANDARDS FOR AUDIOVISUAL PROGRAMS

by

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He was co-investigator on an NDEA Title VII, Part B, national study on the local production of visual instructional materials, which resulted in the USOE publication, _Improving the Learning Environment_. He is a member of a two-man demonstration team created as a result of the National Workshop on Educational Media Demonstrations held at San Jose, California, under the auspices of NDEA Title VII. He is serving as a member of the Board of Directors of the DAVI, NEA, and the Board of Directors of the Audio-Visual Communications Section of National University Extension Association. He is chairman of the Department of Audio-Visual Instruction, NEA, Committee on Professional Standards, and author of the first national adopted set of Quantitative Personnel and Equipment Standards (1965) for the audio-visual field. He is continuing to work on the standards problem as a co-investigator on a NDEA Title VII study to update and expand the original standards. The study thus far has resulted in the publication and national distribution of a document entitled _Quantitative Standards for Audiovisual Personnel, Equipment and Materials in Elementary, Secondary and Higher Education_. He will be the institute director on a recently approved proposal funded under Title VI B of the Higher Education Act authorizing an institute for college faculty. Mr. Faris is a contributor to _AV Instruction_, _Bulletin of NASSP_, _College and University Business_, _Social Studies_, _Scholastic Coach_, _New Media in Higher Education_, _Childhood Education_, and others.

QUANTITATIVE PERSONNEL, MATERIALS, AND EQUIPMENT STANDARDS FOR AUDIOVISUAL PROGRAMS

I would like to state at the outset the major objectives of this paper. They are:

1. To discuss the rationale for the establishment of quantitative personnel, materials, and equipment standards for the audiovisual field.
2. To indicate the procedures utilized in establishing the quantitative standards presently adopted by the Department of Audiovisual Instruction as the official standards for the field.
3. To recommend guidelines to be followed in determining media standards for schools for the deaf.
4. To suggest modifications of the DAVI Standards that might be utilized in establishing media standards for schools for the deaf.

Why Standards?

The problems associated with the establishment of quantitative standards, in any field, are well recognized. Dr. Anna L. Hyer, Executive Secretary of the Department of Audiovisual Instruction, writing in Audiovisual Instruction, mentions some of the dangers involved in such an undertaking. She writes:

> *Setting quantitative standards is somewhat dangerous. In the eyes of many administrators, minimum standards tend to*

become maximum ones. Furthermore, basic standards need to be adapted to local conditions. It is quite possible that a minimum standard in one school may be fairly adequate for another, and likewise, what is considered ample for one district, is sub-standard for another.

Even with these oft-repeated limitations to the establishment of standards, one needs only to turn to the library field to assess the impact standards have had in that field. The effect of the American Library Association Standards in upgrading library programs in schools across the country and in contributing to legislative action on the state and national levels is recognized by anyone associated with the media field. An inspection of the Congressional Record, where testimony concerning PL 89-10 is recorded, provides documented testimony of the impact the ALA standards had on that particular piece of national legislation.

There are many other instances where qualitative and quantitative standards have contributed immeasurably to the advancement of a field. Few people would question the influence exerted by various regional accrediting associations in upgrading both elementary and secondary education programs. NCATE, through their accrediting program, has elevated the quality of teacher education programs across the country. The physical education programs in elementary and secondary schools have felt the impact of the LaPorte Scorecard. More evidence could be presented to support the establishment of standards; however, it should suffice to say at this point that standards have been developed by many professional fields and organizations and these standards have had in most cases a beneficial effect upon the development of each field.

Surprising though it may seem, the audiovisual field, until very recently, has had no nationally accepted standards comparable to those mentioned above. Administrators of audiovisual programs have long recognized that the lack of such standards has operated as a major deterrent to the development of the field; but for various reasons no major effort was mounted to meet the need. Numerous efforts were made at local levels to establish standards but these were relatively ineffective. Even while formulating these individual school standards, audiovisual coordinators were pleading for citywide standards, the cities for statewide; and for the past decade at least, states have been requesting national standards.

It is generally recognized that the great demand for audiovisual standards within the past five to ten years is a direct outgrowth of the recognition and financial support accorded the field through federal legislation. School systems have received unprecedented sums of money for the purchase of audiovisual equipment and materials but with no guidelines to follow in the expenditure of these funds. Logically many administrators have turned to the Department of Audiovisual Instruction for assistance. Unfortunately there was very little information available for the DAVI staff to draw upon in answering these queries. For these and other reasons the die was cast. The audiovisual field had to grow with the times and tackle the problem of establishing both quantitative and qualitative audiovisual standards. A parallel situation appears to be confronting those concerned with the education of the deaf. Recognition of the need for a variety of teaching approaches in classrooms for the deaf has prompted questions related to the types and amounts of audiovisual equipment and materials that should be available. Hopefully those faced with this problem can profit from the experiences of the audiovisual field.

The audiovisual field responded to the challenge mentioned above by establishing two national committees with responsibilities for resolving the standards dilemma. The Committee on Professional Standards and Ethics was to undertake the task of establishing quantitative standards for personnel, equipment, materials and budget while the Consultant Service Committee was to work on an instrument for assessing the qualitative aspects of audiovisual programs. Since the focus of this paper is on quantitative standards, the work of the Consultant Service Committee will be dispensed with by merely indicating that two documents have resulted from their work. One of these that should be of particular interest to educators of the deaf is entitled Criteria for Educational Media Programs in Elementary and Secondary Schools.[1] The procedure followed by the Committee on Professional Standards and Ethics in consummating their responsibility is outlined below.

Development of Quantitative Audiovisual Standards

Probably the first serious national impetus to the establishment of quantitative standards was given at a meeting of the DAVI Committee on Professional Standards and Ethics in 1963. At that time, members

[1] A single copy is free upon receipt of a 6½ x 9½ self-addressed envelope with 20 cents in postage attached. Requests should be sent to the Department of Audiovisual Instruction, National Education Association, Washington, D.C.

of that Committee under the co-chairmanship of Dr. Mendel Sherman of Indiana University and the writer formulated a tentative list of quantitative equipment guidelines for elementary, secondary and higher education. Following this meeting the co-chairmen of the above mentioned Committee applied to the United States Office of Education for a grant to develop quantitative guidelines for the audiovisual communications field. The request was approved and funded under Title VII, Part B, of the National Defense Education Act. The ultimate objective of the study was to formulate guidelines for audiovisual personnel, materials, equipment and budget.

The first phase of the study involved a comprehensive survey of all work done previously concerning the establishment of guidelines for the audiovisual field. After this information was collected, a seminar of twelve audiovisual specialists was conducted on the Indiana University campus in October, 1965.

The purpose of the seminar was to formulate guidelines in the four areas mentioned previously, drawing upon the information collected by the co-investigators and the wealth of experience of the seminar participants. For three days and nights the participants studied and exchanged views concerning the problem at hand. Surprising as it might seem, after many spirited discussions, agreement was reached resulting in a document that contained quantitative guidelines in the four areas as planned.

The guidelines as formulated by the seminar for elementary, secondary, and higher education were organized under two levels, one designated as basic and the other as advanced. The "basic" specifications represented quantities needed for a functioning audiovisual program in a school. The *advanced* stage was well beyond the basic stage but within reach of many schools striving for excellence in their programs.

As an example of the recommendations in the guidelines, the information pertaining to 16mm projectors is listed below:

BASIC

Elementary Schools	1 per 10 teaching stations
Secondary Schools	1 per 10 teaching stations
Higher Education	1 per 12 teaching stations (multipurpose institutions)
	1 per 8 teaching stations (single purpose institutions)

ADVANCED

Elementary Schools	1 per 5 teaching stations
Secondary Schools	1 per 5 teaching stations
Higher Education	1 per 8 teaching stations (multipurpose institutions)
	1 per 5 teaching stations (single purpose institutions)

Additional equipment and materials included in the guidelines are slide projectors, overhead projectors, filmstrip projectors, opaque projectors, filmstrip viewers, motion pictures, filmstrips, and other types of media normally associated with the audiovisual communications filed. Because of the lack of stabilization of some materials, e.g., 8mm, specific quantitative quidelines were not recommended beyond experimental amounts.

The guidelines formulated by the seminar were presented to the

DAVI Board of Directors at their meeting in October, 1965. The Board accepted the guidelines and adopted them as the official position of the field, recognizing that these would be changed somewhat as the Title VII study continued.

The next step in the original plans for the development of the quantitative guidelines included a phase designed as Seminar II where representatives of accrediting associations, AASA, ASCD, the various departments of the NEA, et. al., would meet with the co-directors of the study and other DAVI members. The purpose of Seminar II was one of further refinement of the guidelines. The plan was sound but during the several months that had elapsed since the study was proposed, federal legislation had provided additional funds for the purchase of audiovisual materials and equipment. With this federal action the question of "how much equipment and materials should a school have?" was bringing increasing headaches to audiovisual directors, coordinators, and other media specialists. So great was the need for support of national guidelines that even the members of Seminar I began to use the tentative guidelines they had formulated as soon as they returned home.

Perhaps the co-directors of the study didn't realize themselves the full extent to which the audiovisual guidelines were needed. (I would suspect the same holds true with schools of the deaf.) Within weeks after the DAVI Board of Directors had voted to approve the guidelines, the Association of Chief State School Audiovisual Officers decided to not only approve the guidelines, with some slight modifications, but to accept them as *standards*. Before there was any opportunity to proceed logically with Seminar II as planned, organizations, schools and school systems at all levels pounced upon work copies of the standards and were putting them to immediate use. Because of the demand, the co-investigators obtained permission from the USOE to release the standards for publication. These have been printed by DAVI.

Although some shortcomings in the standards are obvious, as must be the case with any beginning in so difficult an area, the standards seem to be making an immediate and significant contribution, judging from the demand for thousands of copies. Feedback from the field indicates that in some instances the recommendations are being used as guidelines, in others as standards, and with accrediting associations as a resource for use with their own evaluative criteria. Even with most unexpected reception, recognition is given to the fact that the standards must be re-examined and revised regularly to reflect the technological changes occurring in the audiovisual field.

In an effort to improve the document, ACSSAVO has conducted two task force meetings devoted to a study of the standards. Dr. Sherman and the author have also conducted various types of questionnaire studies to obtain reactions and suggested revisions. The suggested revisions resulting from these activities are now under study as DAVI prepares to work with the American Association of School Librarians in a cooperative effort to publish a document on "Standards for School Media Programs."

Audiovisual Standards in Schools for the Deaf--Where to Now?

"Would you tell me, please, which way I ought to go from here?"

"That depends a good deal on where you want to get to," said the Cat.

"I don't much care where---," said Alice.

"Then it doesn't matter which way you go," said the Cat.

"---so long as I get somewhere," Alice added as an explanation.

"Oh, you're sure to do that," said the Cat. "If you only walk long enough."

Lewis Carroll, Alice in Wonderland

While the Alice in Alice in Wonderland may not have needed to be concerned about where she was going, today educators working with deaf students certainly must identify the most efficient and effective roads to optimum educational practices for their students. Achieving such a goal requires careful planning of each aspect of the total teaching-learning process, including the determination of the audiovisual equipment and materials needed in classrooms housing deaf students. Dr. Robert E. Stepp writes directly to this point when he says, "classrooms fully equipped to permit a variety of teaching approaches should be standard requirements. This is far from being the situation. Vast strides are being made, but many classrooms have very traditional facilities for meeting the special educational needs of the deaf."

In tackling the above problem, one of at least three alternate routes could be utilized. One would be the route of Alice, a road that would be little better than what exists at the present time. Another alternative, and the one utilized in establishing the DAVI standards, would be to draw upon expert opinion in establishing tentative audiovisual standards, recognizing that these must be validated through application in the field. Due to the rather homogenous nature of the teaching-learning problems confronting teachers of the deaf, a third and more sophisticated approach to the establishment of audio-visual standards might be initiated. This plan would first demand that the instructional objectives to be achieved in schools for the deaf be determined. It is recognized that this is no easy task, but one that seems possible when dealing with a population consisting entirely of deaf students. Once teachers of the deaf have agreed upon and specified the instructional objectives to be achieved, the student learning activities plus the teaching activities (combined these might be called the instructional strategies) required to meet these objectives would have to be isolated. Upon identification of the various instructional strategies to be employed, one could systematically study the audiovisual personnel, equipment and materials requirements and move toward recommended standards that would take into account the special needs of deaf students. Until such an effort is mounted and completed, modifications of the DAVI Standards for use in schools for the deaf would seem to be a worthwhile undertaking. Consequently, attention will now be directed to that topic.

DAVI Standards and Schools for the Deaf

Being a neophyte in designing educational experiences for deaf students, it would be presumptuous for the writer to attempt any major revision of the DAVI Standards to meet the needs of such students. The few suggestions that follow are based on the reading and consultation undertaken by the writer in preparation for this assignment and should be utilized for discussion purposes only by those individuals more closely associated with the education of the deaf.

The recommendations that follow are based on the following assumptions.

1. Due to the nature of the instructional tasks confronting teachers of the deaf, particularly when dealing with prelingually deaf, visual images must play an extremely important role in all learning experiences.
2. In most teaching-learning situations involving deaf students it is essential that the teacher and student maintain eye to eye contact much of the time.
3. The handicapped child classed as *hard-of-hearing* can profit from experiences involving amplified sound.

With these assumptions in mind, the audiovisual tools that immediately come to mind are the overhead projector, filmstrip projector, slide projector, motion picture projector (both 8mm and 16mm) and the tape recorder. The potential uses with deaf children of the visual display equipment above are many. The possibilities of the overhead projector are limited only by the creative talents of the teacher, supporting media staff, and students. Certainly many types of locally produced materials for use on the overhead can be designed and produced to meet the specific instructional requirements of a particular learning experience. This device can also be utilized in a lighted room and if properly placed can highlight the teacher's face, a definite plus factor in teaching the deaf. There are many filmstrips and slides available, either locally or commercially produced, that are suitable for use with deaf children. The 8mm projector, with the capability for continuous viewing, offers many exciting possibilities for providing repetitive practice in learning to lipread and fingerspell. As appropriate materials for use with the above equipment become available in sufficient quantities, it would seem reasonable to expect every classroom to be equipped with the items mentioned. In those classrooms with severely hard of hearing students, the tape recorder or some other device for amplifying sound should be standard equipment. A specially designed listening center in each such classroom should be given serious consideration.

The above suggestions would provide for a multi-sensory approach to learning, where the visual display equipment and sound amplification systems could be utilized separately or in concert. The equipment, with its associated software, can also be invaluable in simulating everyday experiences that deaf children, due to their handicap, will not normally encounter. The combination of the hardware and software could provide simulated experiences that would undoubtedly improve the deaf student's ability to not only receive but originate messages.

In addition to the basic equipment noted, other types of projection devices should be available from a central audiovisual or media center to meet any special instructional problems that might arise. The DAVI Standards could be utilized here.

To facilitate the use of the above equipment, every classroom should be equipped with a permanently mounted wall screen. Consideration might also be given to the installation of two such screens if the instructional strategies to be employed could best be accomplished with two images. As an example, the overhead could be used in concert with one of the other tools to provide an opportunity for the students to view a written word while at the same time observe its pictorial referent.

The teaching stations or classrooms should be so designed that teachers can control all equipment by remote methods. Movement from one spot to another in a classroom would undoubtedly decrease the teacher's effectiveness, particularly in working with deaf students. Provisions should also be made to have light control facilities that enable the teacher to control the light level from normal lighting down to 1/10 foot candle.

As a final comment on equipment and materials, it would seem that certain types of self-instructional approaches should be employed in educating the deaf child. With the visual display potential of teaching machines, or even computers, schools for the deaf should at least have such equipment available for experimental use.[2] The video-tape recorder should also offer some unique opportunities for innovative uses in this field. Would a deaf student profit from *re*-viewing a session with his teacher? Would a deaf student benefit from watching himself or a peer performing certain learning tasks? The video-tape recorder would offer exciting opportunities for exploring such questions.

The mere availability of the audiovisual equipment and materials mentioned above provides no assurance that these items will be utilized effectively or at all. A very important, if not the most important, element in assuring the proper utilization of media is the presence of qualified audiovisual leadership. The encouragement, direction and expertise provided by such a professional is essential if educational media are to make make maximum contributions to the learning of the deaf. Granting the importance of having professional media leadership readily available, it is suggested that the DAVI Standards on personnel be followed until recommendations more specific to schools for the deaf are formulated.

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[2] Suppes work in this area should be studied thoroughly. An excellent article on his work appeared in the January 14, 1967 issue of Saturday Review.

As a last comment, it is strongly recommended that a concerted effort be made to provide adequate support for those individuals (Cory and others) who are undertaking to establish media standards for schools for the deaf. Without question, completion of such an undertaking would make a tremendous contribution to the field as has been the case in many other instances.

Note: A copy of the reference Quantitative Standards for Audiovisual Personnel, Equipment and Materials may be obtained from the Department of Audiovisual Instruction, National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. 20036.

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MEDIA PRODUCTION FACILITIES IN SCHOOLS FOR THE DEAF

by

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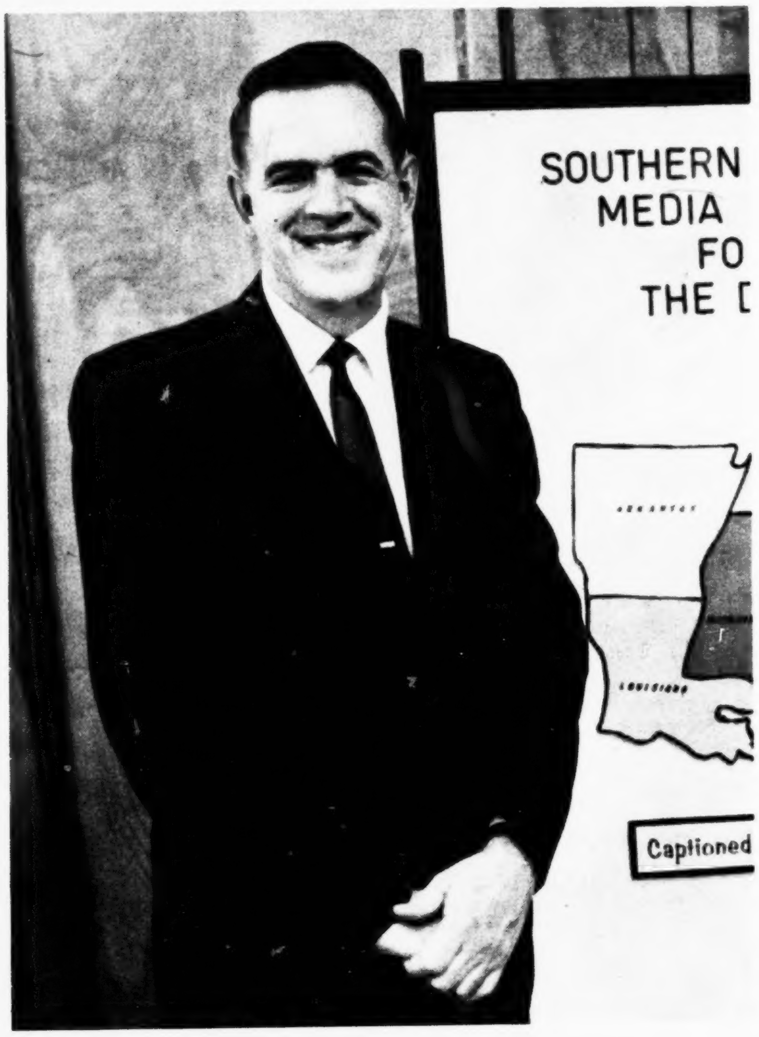

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Mr. Jackson has assisted in preparing a chapter on overhead projection techniques for a college textbook, and has published articles in the _American Annals for the Deaf_ and in _Audiovisual Instruction_.

MEDIA PRODUCTION FACILITIES IN SCHOOLS FOR THE DEAF

We are in the midst of a technological revolution and a cultural explosion that has engendered pronounced changes in education. Schools are inundated by surging enrollments, creating a shortage of qualified teachers at a time when the need for fully educated citizens and highly trained manpower was never greater. Paradoxically, educators are not only confronted with these problems, but must administer an ever expanding and changing school program in the midst of constant change and innovation when society demands certain things remain unchanged. It is these demands in the form of customs, traditions, regulations and even laws which affect the rate of innovation in education.

American educators often very progressive in their views in many areas sometimes have been very conservative, even rigid, in thinking about their own practices. During the early 1700's for instance, when educational technology was at a pre-industrial state, schools did not have blackboards or other teaching apparatus, but reportedly, some flourishing schools boasted of owning a globe. Instructional materials were homemade as were all the school supplies. Goose-quills for writing required the services of an expert technician, in most cases the schoolmaster. Very often a teacher was hired on the basis of his ability to cut and mend quills rather than his ability to teach.[1]

The introduction of new educational apparatus to American education, such as the steel pen for writing in the late 1830's, the pencil in

1861, and the fountain pen in 1880, had little impact on classroom instruction until cheap writing paper became commonplace. Such devices as the Spelling Stick were no longer novelties and a host of new machines such as the stereopticon and lantern slide projector were introduced near the turn of the century.

The American Education Monthly as early as 1870 reported that facilities and teachers are indispensable and good apparatus was scarcely less so. Furthermore, it was indicated that teachers should have proper implements to work with if work was expected to be done. Unfortunately such support was slow in coming as was the long awaited technological revolution in education.

Recent enactment of federal legislation has enabled schools to initiate new programs and approaches to learning at a more rapid pace than anyone dreamed possible a few years ago. Schools for the deaf are also experiencing this phenomena and have reaped a bonanza of unexpected benefits, especially in terms of Title I and other federal programs. Captioned Films for the Deaf, U. S. Office of Education, has initiated procedures to equip all classrooms for the deaf with an overhead projector, a remote controlled filmstrip projector, two screens, and two projection tables. Increasing availability of captioned films media kits (such as "Sights and Sounds" complete with recordings, filmstrips, teachers guides and student workbooks), single concept 8mm cartridge films with projectors and carrying case, overhead transparency masters, and other curriculum materials is overwhelming school personnel responsible for the instructional program in their respective schools. Traditionally the school librarian has assumed responsibility for all book materials, but the concept of an Instructional Materials Center (IMC) includes both books and non-book materials, such as study print collections, filmstrips, films, records, and related media. Consequently educators have been confronted with a controversy in regards to the role of the librarian and the audiovisual specialist in the IMC. Dr. Ray Wyman has suggested that perhaps the traditional librarian and the traditional Audio-Visual specialist should be replaced by a team of specialists. [9]

A recent survey by Mrs. Patricia Cory indicates that few schools for the deaf have adequate libraries in terms of books or facilities. [4] More significant, however, is the fact that only two schools out of the thirty in the survey employed professionally trained librarians and supporting secretarial help. There is no reason to believe the situation would differ greatly if a survey had been made of all schools for the deaf. In all probability, competition for professionally trained librarians will become more acute and it will become extremely difficult to keep qualified personnel. The shortage of trained library personnel is evident in all areas of industry, government, and education. Educators of the deaf will be competing for all types of personnel, skilled and unskilled, professional and non-professional, trained or untrained--in order to fill existing vacancies. New positions are often left unfilled because qualified people are not available, nor does it seem likely that such conditions will be alleviated in the very near future. Consequently we must investigate new approaches and ways of doing things whereby maximum utilization can be made of the time available for instruction. This means greater use of technology in the form of new media. It means accessibility to equipment, facilities and materials, provisions for individual study, flexibility in programming, and freedom to innovate. We must overcome the *caretaker* attitude concerning the acquisition and utilization of instructional materials. Too many of our librarians and A-V personnel are *keepers of things* or *gadgeteers.* They take immense pride in acquiring more books, films, filmstrips, or other media so it can be cataloged and stored on shelves or in a closet inaccessible to teachers and students. The *gadgeteer* derives his pleasure from the *care and feeding* of elaborate and expensive devices which are too complicated for anyone else to operate. Unfortunately these people often supervise the purchase of expensive equipment and commercially prepared teaching materials. Selection may be on the basis of personal preference, availability from a local dealer, or may otherwise reflect a lack of knowledge and experience. Hopefully the situation will improve as a consequence of the summer media institutes, in-service training and workshops conducted at individual schools, and recognition by administrators of the need for a carefully planned, systematic approach to media acquisition, production, and utilization.

There are a multitude of commercially produced instructional materials available today, and indications are that production of the traditional teaching aids such as books, pictures, charts, filmstrips, records, and related media will continue to grow at a rapid rate. A multiplicity of such materials is hightly desirable but more often than not the colorful and attractive commercially prepared materials incorporate vocabulary, language, or concepts which are not suitable for use with deaf children. Commercial materials are designed for a mass market and are, of necessity, general in their treatment of a given subject. The necessity for preparation of instructional materials at the local level is very apparent. Commercially produced materials cannot and do not fit every teaching situation or satisfy a sufficiently large number of teaching needs.

Last year, the Texas Education Agency received a grant to evaluate and redesign a series of overhead transparencies for use by schools for the deaf. These transparencies were designed explicitly for public school classes and were correlated with textbooks for specific subject matter areas and at designated grade levels. Preliminary evaluation by teachers using them at the Texas School for the Deaf indicates considerable modification is necessary before many of them can be used. The original transparency, in some cases, must be redesigned to break the concept down into smaller bits. Sometimes the terminology and language is too advanced. This criticism is almost universally true of all media, including captioned films.

Most schools for the deaf have various resources available which are not commonly associated with the library or audio visual program but have wide application in the production of media. Darkrooms, cameras, enlargers, lettering equipment, printing facilities, and drafting equipment are readily available in most schools for the deaf as are spirit duplicators, copying machines, typewriters, and other types of office equipment. Such equipment could be used effectively for the production of instructional materials, but it is unusual to find more than a typewriter and spirit duplicator assigned to the teachers' workroom. More often essential equipment is located in the principal's office or locked up in a closet somewhere. The vocational principal usually does not allow anyone but the instructor of printing or photography to use cameras or darkrooms assigned to that department nor does the business manager allow anyone to use the Thermo-fax copier or other copying equipment in the administrative area. The librarian, if the school is fortunate enough to have one, is assigned a workroom or storage room in which a few projectors, a paper trimmer, or related equipment and materials are carefully hidden from view, discouraging teachers or students from using them. Oftentimes a principal or supervising teacher requires that certain equipment and materials be shared by all the teachers and students, consequently no one uses them. An audiovisual coordinator, if he is on the scene, probably requires everyone to fill out forms in quadruplicate before he will replace a lamp in a projector or perform some menial task that any normal teenager could be taught to do in a few minutes.

Is it any wonder that classroom teachers of the deaf are pleading for more pictures, charts, chalkboards, and spirit duplicator masters rather than films, filmstrips, transparencies or other media? Why aren't teachers producing more of these latter materials at the local level? Perhaps the answer is that we have not provided the logistic support, encouragement, or leadership whereby the creative talents of our classroom teachers could be utilized more effectively.

Schools for the deaf have several charactistic in common which must be considered in developing a rationale or framework of reference for the local production of educational media. These are:

1. An enrollment of under 500 students with dormitory facilities on the campus.
2. A teaching staff of less than 100.
3. Curriculum structured into levels such as:
    (a) lower elementary
    (b) upper elementary
    (c) high school
    (d) vocational
4. Class size varying from a maximum of 10-12 downward to one or two children.
5. Education of the deaf requires special equipment and different approaches to teaching not common to public school education.
6. Schools and classes for the deaf are often isolated from schools or classes for hearing children and from other schools for the deaf by geographical location in a city, town, or state, and within buildings in a school district.

Development of facilities for media production might be initiated by stages which could be characterized as follows:

PHASE I

No full time media specialist but one or more staff members attended a summer media institute. Plans are formulated for in-service training and workshops in media production and utilization. The Administration investigates the feasibility of establishing an IMC and determines possible sources of funds for materials and equipment. Consideration is given to space requirements, staff and administrative procedures necessary for the operation and supervision of a media center.

PHASE II

Satellite media centers are established in the various departments or buildings utilizing existing equipment and facilities such as teachers workrooms, departmental libraries or conference rooms.

An evaluation of existing materials including books, filmstrips, and related library materials should be completed. An up-to-date inventory should be made of all available equipment including typewriters, duplicators, projectors, and screens to determine their location and condition. Responsibility should be given to a full time staff member to coordinate the overall planning and to expedite the cataloging of available instructional materials. Procedures should be initiated for the repair and maintenance of existing equipment. Attention should be given to the problem of storage and distribution of materials and equipment. Funds should be made available for purchase of new equipment and supplies.

PHASE III

A media specialist is employed to develop a comprehensive media program. Funds are made available for acquisition of needed instructional materials and supplies. All classrooms are equipped with two screens, an overhead projector, remote controlled filmstrip projector, projector stands, and other equipment such as 8mm and 16mm motion picture projectors. The traditional library and audiovisual functions are centralized into one facility which includes the IMC, media production, and administration of the over-all media program. The satellite media centers become more functional with the addition of a dry mounting press, paper cutter, dry copier, preview facilities, storage for films, filmstrips, and supplies. It is assumed a spirit duplicator and typewriter are already available. Student assistants would be utilized as projectionists and to position equipment when needed. [3] Procedures are initiated for preventative maintenance on all equipment, which includes ordering and stocking of spare lamps and having personnel available who know how to replace lamps and make minor repairs.

Darkroom facilities and related graphic arts services in the vocational department should be exploited to the maximum. Cardboard frames for overhead transparencies, graphic illustrations, and a variety of printed materials, including full color illustrations, could be produced in the print shop. Drawings and other artwork could be enlarged or reduced with the process camera and inexpensive offset plates could then be made. Such artwork if printed on translucent paper could be used as masters for making overhead transparencies with a thermal copier, diazo machine, or other copying devices. The same masters could also be used to make a spirit master which would allow a teacher to make additional paper copies. Students could then have a paper copy of whatever the teacher was using on the overhead.

Facilities

Faris, Moldstad and Frye have suggested a minimum of 1260 square feet be provided for a materials production program. [6] Therefore, a room 30 x 42, approximately the size of a traditional public school classroom, centrally located in the vicinity of the library, and accessible to the staff would be adequate for media production in most schools for the deaf.

Such a room should have a sink with hot and cold water available, good ventilation, light control and a minimum of two 20 amp electrical circuits with two or more receptacles on each wall. Provision should also be made for a small darkroom about 8 x 10 feet in size with storage cabinets, or a small closet for storage of supplies and equipment.

Basic Componets

An analysis of production techniques indicates certain elements or activities are common and essential to a successful media program. These activities can be categorized into six basic areas: (1) illustration, (2) preservation, (3) identification, (4) duplication, (5) photography, and (6) display. An unlimited variety of instructional materials can be produced when all six activities are combined, but elimination of one function will reduce the potential of the other five. Effectiveness of the program is also dependent upon the adequacy of the facilities, equipment, materials, and qualifications of personnel involved with media production.

Illustration. Textbooks, teachers manuals, magazines, and other printed materials are the largest source of illustration for classroom teachers. Clip books and other commercially prepared artwork are also available but seldom found in a school for the deaf. Student artwork and drawings, tracings, paste-ups, layouts, and visual material prepared by staff members are often used for school newspapers, yearbooks and other publications.

The media production center should have all types of resource materials for artwork--classified and indexed and copyright free when possible--in a form which can be reproduced in any type format. The basic equipment required for this area would be a drawing table with a good light, some storage shelves, and a cabinet for art supplies.

Preservation. Most teachers of the deaf spend hours each day looking for pictures, preparing charts, or making some type of graphic aid. These materials are easily torn and mutilated, hard to store, and difficult to replace. Dry mounting of pictures, lamination, color lifts, felt board materials, cloth backing of charts and maps, and a combination of these techniques can all be accomplished inexpensively with a dry mounting press.

The over-all cost of dry mounting materials will vary depending on size of staff and availability of equipment. One dry mounting press would suffice initially; however, it is difficult to dry mount and laminate at the same time. An additional press would allow a number of teachers to dry mount and laminate simultaneously. A tacking iron should be provided with each press, along with a pair of ferrotype tins, a masonite board about 16" x 20" for laminating, a paper trimmer, and a large work table or counter.

Identification. Lettering, captions, and labels are used with all types of visual materials. The need for simple, inexpensive, legible lettering which can be done quickly, accurately, and easily with a minimum of training and experience is generally acknowledged as a major problem by classroom teachers. The typewriter, varityper, and other mechanical devices provide excellent copy if they meet the need and are available. There are, however, several types of the lettering systems, devices, and materials which can alleviate this problem and which can be purchased rather inexpensively from most school and art supply stores. Some of these lettering devices are:

1. adhesive backed letters
2. cardboard, plastic or ceramic letters
3. stencils with guides
4. special pens and templates, such as Wrico, Letterguide and Leroy, and
5. devices which print labeling on colored plastic tapes.

A sign making machine, used by variety stores to make signs and price cards, could be used most effectively to make quick and easy multicolor flash cards, or other visual aids. Ink is rolled onto metal type with a brayer, then a piece of cardboard is pressed against the type, resulting in a quick print job. This technique is more practical than hand lettering when several copies of an item are needed.

IBM has a reconditioned electric typewriter with a large sans serif type face called the "Directory Style," which will reproduce very nicely on thermal copy transparencies and is large enough to read when projected on a screen.

Duplication. The extent of commercially prepared spirit duplicator masters is almost limitless. More significant, however, has been the decline of the mimeograph during the past few years and the almost unprecedented acceptance of the spirit duplicator by classroom teachers. Availability of materials, ease of operation, and accessibility provide an unbeatable combination which has been further enhanced by the appearance of the thermal copier. This device allows a person to make a transparency for the overhead and a spirit master from the same original black and white copy. Addition of a photocopier and diazo processing equipment offers unlimited possibilities for producing visual materials. Thermal copiers require black and white copy, and the diazo process requires a translucent paper or film positive in order to make a transparency. The photocopier is a useful device for getting a black and white film or paper copy from books or other printed materials. This black and white film or paper positive makes an excellent master for all types of duplication including printing.

Photography. Advent of the 10-second polaroid picture ushered in a new era for photography. Anyone can take pictures of professional quality without experience or knowledge of photography. Not only is this true of still pictures, as exemplified by polaroid and the instamatic line of cameras and film by Kodak, but it is also characteristic of the new developments in other areas of photography. The new Super 8mm format for motion picture films and new cameras with automatic controls and zoom lens are other instances. A similar breakthrough was achieved in development of new 35mm single lens reflex cameras with thru-the-lens metering systems. A media production center should have one Model 100 polaroid camera, a good 35mm SLR with thru-the-lens metering--complete with closeup lens and copying attachments, a copy stand, lighting equipment, a tripod, and a 8mm camera with zoom lens. Other equipment, such as the photomodifier, is necessary for enlargement or reduction of illustrations, unless an enlarger and darkroom facilities are readily available. The Heiland Repronar is also very useful for slide duplication and filmstrip production. An inexpensive single frame 35mm camera can also be used to make filmstrips inexpensively.

Display. The preponderance of bulletin boards, charts, and a host of other static displays in schools and classrooms for the deaf is graphic evidence of attempts to communicate. Generally the display is indeed static and the message is lost in the haphazard arrangement of pictures, captions and construction paper. Magnetic boards, chalkboards, pegboards, even projection screens can be considered as display devices. One of the most unique and useful types of display utilizes the hook and loop board. A small piece of nylon fish hook tape can be used to suspend a heavy object on the vertical surface of the board. The usefulness of the hook and loop board is virtually unlimited for classroom displays, photography and numerous other applications. An airbrush and portable air compressor would be necessary for shading backgrounds on displays or to add color to visual materials. Of course, some hand tools such as a hammer, saw, and drill would be extremely useful.

The need for quality "software" is the most difficult problem confronting educators today. Making the rounds in computer circles is the slogan "GIGO" or Garbage In, Garbage Out. Will we provide adequate facilities for media production and insist upon quality *software* for our deaf students, or are we going to provide them with "GIGO" materials?

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THE IDEA OF THE SCHOOL LIBRARY AND COMMUNICATION

by

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She is the author of two children's books published by Follet, The O'Donnels and Many Names for Eileen.

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A member of several professional library organizations, Miss Sullivan is listed in Who's Who of American Women and in Who's Who in Library Services.

THE IDEA OF THE SCHOOL LIBRARY AND COMMUNICATION

Communication is the basis, the function, and the goal of the school library. Each of us could think of a dozen examples of the important part communication plays in the establishment of the individual school library and the spread of the concept of good school library programs. Once the library is in existence, its assistance to instruction and its support of curriculum are achieved most significantly by good communication. And if the school library is to be a major factor in education, communication of its needs, its offerings, its strengths, its weaknesses will be one of its goals. The fact that materials of communication are the stuff of the library program only confuses us in viewing the layers or circles of communication which affect and are affected by the school library.

Development of demonstration projects as a means of selling school library programs is directly related to communication. There was a logic to the progression from publication of Standards for School Library Programs by the American Library Association in 1960 to the success of the School Library Development Project in 1961 and 1962 and to the current Knapp School Libraries Project which began in 1963 and will conclude in 1968. The fact that federal funds, especially under Title II of the Elementary and Secondary Education Act, are specifically encouraging further demonstration school libraries means that another avenue of communicating the concept of excellent school library service is opening. At the same time, the

American Association of School Librarians, a department of the National Education Association and a division of the American Library Association, is starting work on a revision of the 1960 standards. The seven-year-old standards which were sometimes dismissed, often misquoted and misinterpreted, are now to be revised and undoubtedly strengthened and tightened. Surely the many chains of communication leading to this revision are responsible not only for the fact of revision but for the interest and concern of the educational world awaiting the results of that revision. There had been school library standards before 1960, but the scope of the 1960 standards, the incorporation of the concept of the school library as the center for all instructional materials within the school, the far-reaching improvements anticipated with employment of sufficient staff, the emphasis on the necessity to provide equitable service for all kinds of schools (elementary as well as secondary, new schools, schools with special programs of instruction) made them formidable and famous. The value of an extensive campaign of promotion to inform the educational field about the standards was apparent, and the $100,000 School Library Development Project was funded by the Council on Library Resources, Inc., to do just that.

A national leadership conference, sponsored by the Project, encouraged the development of plans by individual states to achieve the goals to which they assigned highest priority. Funding and consultant assistance for these state proposals put the Project in the position of sponsoring, on a short-term basis, goals that would have a far-reaching, long-lasting impact. The need for the appointment of state school library supervisors was acute, and several states succeeded in getting this kind of position established. It is "what-if" kind of talk to engage in, but it can scarcely be contradicted that the flood of interest in school library development occasioned by numerous factors in education and strongly supported by the Elementary and Secondary Education Act would have been abruptly dammed or siphoned off were it not for the fact that a number of state school library supervisors were already on the job and well able to work out plans for use of federal funds because of their knowledge of the state and its school libraries. By the same token, and much to the credit of the School Library Development Project, the briefing which the Project provided for many school administrators made them better able to administer additional funds when they became available.

In its eighteen-month existence, the School Library Development Project was responsible for the production of many kinds of materials and the encouragement of local initiative in school library development. When officials of the Knapp Foundation, Inc., first expressed interest in providing funds for another school library project, the scope of the new project began to emerge quite clearly. The stage had been set, the leaders developed, the story told in many ways and in many places. Now the world of education was wondering whether any schools, anywhere, met the standards outlined by the American Library Association in 1960. The Knapp School Libraries Project was planned to provide an answer to that wonderment and to ask some relevant questions of its own.

With $1,130,000 provided by the Knapp Foundation, Inc., the Knapp Project was announced late in 1962 and officially began March 1, 1963.

Now with less than a year of its five-year existence remaining, it has achieved most of its proposed objectives: selection, development by funding, and demonstration of eight school library programs throughout the United States (two in senior highs, one in junior high, five in elementary schools); stimulation of visits by librarians, administrators, teachers, and community leaders to these Project Schools, sometimes with direct Project grants for expenses of travel; encouragement of emphasis on instructional materials in pre-service education of teachers through the active involvement of one teacher-education institution with each Project or demonstration school; preparation and wide distribution of materials telling not only about the Project but about the development of school library programs. This last-named objective has been served through articles in professional and general periodicals, audiovisual filmstrip reports on the Project, and especially through sponsorship of a 28-minute color film, And Something More, about an elementary school library produced by Guggenheim Productions, Inc., in 1964.

I have directed the Knapp Project since it began, and I intend to remain its director until the Project is concluded in 1968. Perhaps this dims my vision or puts blinders on me, making it difficult to focus more sharply on these five years of its existence. Be that as it may, it seems that a number of events and changes in attitudes have served to make these five years a time of significant change.

These years of school library development and development of the financial resources responsible for them have provided an interesting study in perspective. At the time the Knapp Project began, the grant was the largest ever made exclusively to school libraries. Within two years, a number of individual states had Title II ESEA budgets larger than the total for the Knapp Project; in California, for example, the portion of Title II reserved for demonstration school library projects was larger than the Project budget. Finally, when one of our Project high schools, Oak Park and River Forest High School in Oak Park, Illinois, was selected to receive a grant for further development of its resources of teaching materials under Title III of the Elementary and Secondary Education Act, the total available to that one school from federal funds alone was destined to exceed the entire Knapp Project budget. With many more educators and citizens awakened to the need for school library support, thanks to continued concerted effort at many levels and from many sources, it is safe to predict that even these funds will in turn be dwarfed as local school districts, states, foundations, and the federal government take over more and more of their fiscal responsibility for provision of instructional materials.

The Knapp Project has been blessed with a concerned and dedicated Advisory Committee, its members well educated and experienced in school library programs and their place in education. One of the Committee members is especially dear to my heart for the two refrains she favors most at meetings or in correspondence with the Project office: "Be sure you get your vacation," and "Remember, we can't save the world with this Project." Every undertaking, certainly every educational project benefits from someone with authority and responsibility who is willing to admit, great as the potential of the undertaking may be, it can not accomplish everything. In 1963, when we were more aware of the possibilities and less alert to the limitations of the Project, the Advisory Committee had to recognize that there were, for example, geographic limitations to the Project. If demonstration were to be best achieved, the eight Project Schools would have to be located in the United States. Tentative inquiries from some U.S. possessions and from neighboring Canada had to be answered in the negative. Similarly, recognizing that eight schools could not be fully representative of the U.S., we saw we would have to select and work with ones which seemed typical enough so that visitors would get the feeling that, with the same kind of investment of effort and money, they could achieve most of the results in their own schools. I am sure that decisions like these were disappointments to many people who saw in the Project the promise of assistance desperately needed in all kinds of schools.

I remember vividly a conversation with Mrs. Patricia Cory, who surely is both the instigator and the publicist primarily responsible for the emphasis being placed on needs for school library programs in schools for the deaf. Mrs. Cory wondered about the possibility of a school for the deaf becoming one of our demonstration centers, and I--forced to think of the hundreds of schools which would apply unsuccessfully and the thousands of visitors who would have to orient themselves to a new community and to some new concepts if their visit were to have value, and whose chances of doing so would be diminished by any factor limiting the typicality of the school--had to be most discouraging. It seems to me now, though, that the same major effects on climate (it's a switch from the frigid and fruitless to the temperate and productive) that have occurred in school libraries in general during the past decade have now been repeated, in a shorter period of time, and on a more limited scale, in school libraries for the deaf. The survey of library services in schools for the deaf has stated the situation. The report that cites standards especially applicable to school libraries in schools for the deaf has been published. It is the tireless and committed Mrs. Cory who deserves major credit for both achievements. The stage has been set, it seems to me, for programs to demonstrate what school libraries can provide for instruction in schools for the deaf.

Like the impact of the library program within the school itself, the results of demonstration programs are difficult to measure. As has been said about educational research, we seem always to have to choose between doing very precise research on rather unimportant topics and research that may be much more amorphous and difficult to evaluate on concerns that are vital. What we have seen, though, in a five-year period is a great increase of interest and of ability to mount demonstration programs. We are using demonstration effectively to communicate and convince.

There is special poignancy when we consider the values of communication in programs of schools for the deaf. For that matter, the needs for materials and the refinement of means for selection of the best in materials are major points in deaf education. Even in such perfunctory reference to education for the deaf as that made by Dr. Francis V. Lloyd in his career book for teens, Forward to Teach (Little, Brown, 1967), the factor immediately mentioned is the desperate need for special materials for learning. Librarians and teachers working within extremely limited budgets are not likely to experiment nor to have the time needed to search out the materials that will best improve learning of deaf children. Minor increase of staff time or budgets for purchase can accomplish negligible improvement, but a program or project designed as a factor in communication itself can have tremendous implications.

Our experience in the Knapp Project has surely not been free of criticism nor satisfactory to all. There have been comments that more might have been done with our million dollars with many more schools than the eight which demonstrated library programs. Even critics who recognized the value of demonstrating in a few schools questioned the selection of programs which had good beginnings already. Yet demonstration makes little sense unless it is demonstration of the best available program in a school where the entire staff is ready and eager to participate. There is no magic in demonstration *per se*; it is possible that an increased library staff will merely dilute the quality of service available from one good part-time librarian. The strains of demonstration are great. Teachers are asked to accept as a matter of course the visitors who wish to see what happens in the classroom of a school with a good library. Children grow accustomed to visitors observing them. Where on-site visits may not be the most desirable kind of demonstration, there would have to be opportunity for development of a wide variety of videotapes, filmstrips, telelectures to other school staffs, and conference calls in which school faculties could participate. These could substitute for some of the demonstration possibilities of visits if, in the special education of the deaf, opportunities for visits to the schools had to be curtailed.

Demonstration has little value unless there is a measuring stick for quality; standards provide that measure. Demonstration thrives in a climate where the need for improvement is recognized; U.S. education today seems to be caught up in that kind of climate. Demonstration of school library programs is intended not to be a *how-to* course for librarians already frustrated by limited time, money, and materials; it is, instead, part of a program of communication of concepts and recognition of need. Demonstration programs challenge not only the participants but also the observers who have the opportunity to see for themselves what can be done and to determine what they will do. One who chooses a career in education today must be doing so with a keen awareness of challenge; one who forwards a program of demonstration in education today must savor the challenge himself and must have the wit and the will to convince others of the importance of what the challenge offers.

A SMALL SCHOOL INSTRUCTIONAL MATERIALS CENTER:

ITS DIFFUSION OF INNOVATIONS FOR LEARNING

by

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A member of nine professional organizations, Mr. Schowe has published articles in Audiovisual Instruction, Educational Technology, Volta Review, Educational Research Bulletin, and various other professional publications. He is also consultant to Captioned Films for the Deaf, and was Resource Director for the Workshops to Improve Instruction for the Deaf at Ball State University for three years. Committee appointments include the survey committee for Libraries in Schools for the Deaf and the resource committee of Project Life.

A SMALL SCHOOL INSTRUCTIONAL MATERIALS CENTER: ITS DIFFUSION OF INNOVATIONS FOR LEARNING

This paper proposes that an Instructional Materials Center can serve a school for the deaf in two ways. First, it may serve to diffuse innovations for learning throughout the school. This means that teachers are encouraged to find better methods and better tools to help children learn. Second, the IMC (Instructional Materials Center) is a means through which deaf children may acquire a sense of belonging to a *culture of learning:* that they have a need to understand, like other children and adults with whom they communicate, how people everywhere view the world they live in; that the means for doing this are available to them in the IMC; and that their ability to do this is evident in the model activity and behavior of other students who use the IMC or work there as student assistants.

By describing the more visible functions of the IMC and the role and the problems of the person in charge of it, the socializing influence upon deaf children becomes evident.

The phenomenon of diffusion of innovation has been more of a study in agriculture and mass media than in education. We are wary of accepting the process of adoption in these disciplines as wholly applicable to diffusion in education. Perhaps more by chance than intent, this paper, presenting the IMC as an institution for diffusion, will indicate some of the ways in which diffusion in education is unique.

Diffusion

Currently, diffusion of an innovation is said to be achieved when many people adopt the use of some new method, device, or tool, using it habitually with reasonable skill and effectiveness. A person who tries to persuade another to adopt some innovation is called an *agent* for adoption; the person who is the object of this persuasion is called a *target*. It is generally agreed that the *process of adoption* has five steps: 1) Awareness, the target's first acquaintance with the innovation; 2) Interest, the target's seeking of information about the innovation; 3) Evaluation, a stage in which the target imagines himself employing the innovation; 4) Trial, the target's active experimenting or use of the innovation on a small scale; 5) Adoption, a decision to use the innovation on a large scale and continuously.

The actors in the adoption process are:

Agent ⟶ Target

In agriculture, where the adoption process has been under study for many years, the agent and target are peers - adults in a community life situation. In education, the target is children; presumably, the agents are teachers promoting better learning. The interpersonal relationship is clearly not one between peers but between adult and children, and it takes place in the captive social situation of the classroom. Most educational writers, however, speak of diffusing innovations among *teachers*, and they cite the principal and supervising teachers as agents of adoption and diffusion. If the children are targets, as we first proposed, and the principal and supervising teacher are agents, as most writers suggest, then where does this leave the teachers? We think it may be useful to think of teachers as *mediating agents*.

Agents / Supervisors ⟶ Mediating Agents / Teachers ⟶ Target / Children

If teachers are thought of as mediating agents, could a more comprehensive and useful adoption process in education be indentified? We leave this question to the reader.

Acculturation

Representing the wishes of the social community, the school's task is to direct children towards patterns of thinking and behavior that are generally acceptable to the community and perceived as contributing to a good life. The basic needs of the children, as determined by the expectations of the community, are outlined in the curriculum. Determining how the goals of the curriculum are to be achieved is the task of the school, its supervisors, its teachers, and other personnel who assist instructors, as well as those who serve as models of membership in the community. The school, represented by its administration and supervisory staff, acts as an agent of the community. The teacher is the mediating agent or the one who directs the classroom drama designed to persuade children to adopt patterns of thought and attributes of behavior which are considered most beneficial to them by their own society.

The IMP and Innovation

Besides the principal and supervising teacher as agents of change, schools may have a librarian and an instructional materials center person who also function as agents. For the purpose of this paper, the functions of these two people are united. We will call the two-persons-in-one an IMP. One may choose among several ways to justify this name: 1) an abbreviation of Instructional Materials Person, 2) an abbreviation of IMPlementer, 3) an abbreviation of IMProvisor, or 4) one may recall that IMP means strengthen (Webster's Collegiate Dictionary). Also, let us agree that innovation refers to something new to the target but could be something *old hat* to other people.

In the following sketch of a portrait of an IMP, consider how the IMP may have to differentiate the diffusion of innovations among teachers from those among children. As the IMP considers some innovation designed to serve the learning of children, he must also consider the problems of its adoption by the teacher who may be acting as mediator: will the teacher see the innovation as useful to the child? For example, sex education, as an innovation, must overcome the resistance of cultural bias older teachers may feel regarding the effects of sex knowledge upon youth.

While on the one hand there is the problem of influencing teachers, on the other hand there is that of influencing children. Sometimes children can be influenced only through teachers. But sometimes, as one will observe later, students, as assistants in the IMC, become excellent agents in influencing peer targets. Also, if the IMC is freely and independently used by students, the adoption process can take place in a free social situation--free of the captive situation of the classroom. Are these differences from the traditional school worth fighting for?

Space allows us to only sketch a portrait of the IMP. His activities might be categorized in the following services:

1. Supervising - working with teachers and supervisors in planning resources services which will meet the demands of a changing curriculum. New ideas are relayed to teachers through supervisors and direct assistance may be given by the IMP in applying the innovations. The IMP is ideally an experienced teacher with considerable curiosity about new ways of teaching.

2. Teaching - working with students who have reading and study problems and with those who need to learn how to use their IMC.
3. Administering - organizing the services of the IMC, supervising the selection of materials to be purchased for the center, and directing the work of student assistants and paid personnel.
4. Reference Service - advising, assisting, and teaching students and teachers to find materials or information they need.
5. Training IMC Personnel - teaching students how to perform the routine tasks of IMC service and instructing paid personnel to serve the needs of deaf children and their teachers.
6. Production Work - producing all types of audiovisuals such as filmstrips, motion pictures, transparencies, tapes, charts, and the like.
7. Equipment Service - replacing bulbs in projectors and otherwise keeping equipment in useful condition, short of major repairs.
8. Clerical Work - booking films, checking them in and mailing them out, processing books, slipping and shelving books, shelving filmstrips and storing other materials when expediency demands, and answering correspondence.
9. Evaluating - continuously observing the results of the IMC's services with a critical eye for improvement in terms of both teacher and student behaviors.

The Varying Roles of IMPS

Not all schools would sketch the portrait of their IMP as we have sketched it, and the details to be painted into the sketch could be considerably different from those visualized in this paper. On the one hand, for example, an IMP might be sketched only as a traditional custodian of books and *soft materials.* Or somewhat more, she might be expected to require book reports from children, grade them, and then report grades to the children's classroom teachers.

On the other hand, the IMP might be sketched as having only hardware (projectors, etc.) to dispense and special materials (films, etc.) which are used in the hardware. This would not be at all surprising since schools for the deaf, which have no libraries or basic means for the storage and retrieval of learning materials, are probably finding it increasingly necessary to assign personnel to the task of caring for the motion pictures, filmstrips, slides, transparencies, records, and study prints which are being loaned to schools on a long term basis by Captioned Films for the Deaf.

The role of an IMP in a school depends upon the division of responsibilites for the many facets of school operation; the school plant, whether it can be serviced by a single IMC, such as the writer's school, or whether it has several self-contained units for children of different ages; the particular attitude teachers may have towards innovations; the position of the teachers on the continuum of IMC utilization; whether funds are made available to the school for IMP assistance, for necessary materials, and a means of storing and retrieving them; and whether the monetary means along with leadership is provided by the school administrator.

Student IMP Assistants

Whatever the IMP's role, it will probably depend heavily upon the help of student IMP assistants until media clerks and other para-professionals can be employed. There is virtually no IMC service that the student assistants cannot learn to give to younger children and thereby their teachers. This dependence upon students seems to encourage other students to use the IMC and its use by students has become a monument to the poverty of funds, the wealth of student learning, and the charity of their labor in the writer's school.

The IMP organizes the IMC to make materials immediately available when wanted and accessible to teachers in terms of location in the school building, as well as through an adequate indexing system. He teaches his student assistants how to process materials to go into the system of storage and how to help students and teachers find what they may need. The student assistants do the clerical work while the IMP organizes, teaches, and checks student work at strategic stages to see that it is right.

To serve a school which looks for material mostly by subject, the system for organizing materials does not need more than an accession record and a shelf-list file. All materials are stored according to Dewey Decimal Classification Numbers. The Dewey Decimal Classification and Relative Index is used to find the number assigned to specific materials when one wishes to locate them in the IMC. In other words, a main card catalog is a luxury which can be dispensed with in a beginning IMC; the shelf-list file and the Dewey Index will suffice.

Students can write the first cards for books, select Dewey numbers for all materials including filmstrips, pamphlets, and pictures. Students can do the more mundane tasks of IMC clerking with a minimum of supervision or checking. Students run projectors, run errands, run the IMC, and even run the IMP, who reacts and adjusts to the needs and divergent interests of the students.

Problems and Loose Screws

One of the chief problems of the IMP is obtaining enough of the right student help when it is most needed. Homework of students comes before IMC work. As a consequence, many of the mundane tasks requiring immediate attention must be done by the IMP, as well as the more sophisticated supervisory tasks.

The total IMC task may be within the range of the skills developed by the IMP, but the day is never long enough to accomplish what needs to be done, and there exists the consequent problem of resolving priorities. Emergency matters are taken care of first. A loose screw on an immediately-needed projector, or a burned-out bulb get attention before teaching, supervising, administering, or other professional functions.

The processing of new books, filmstrips, and other materials gives way to immediate reference requests of students and teachers. But reference requests give way to the last minute ordering of new materials, should the IMC be blessed with funds.

It is an emergency when books pile up because students have not properly made out charge cards and date slips. Time must be taken to visit erring students in their classrooms to show them how their carelessness makes the student assistant's task a long one and how important their cooperation is even in details which appear insignificant.

Preview of materials in evaluating for purchase is sometimes neglected and less useful materials appear in the IMC collection. So pell-mell are demands for introducing teachers to innovations that evaluation of what the IMP and IMC are doing is a rarity. The apparent success of the IMC seems due more to luck than sensitive operation involving evaluation and other feedback.

Excellence, A Relative Matter

While the function of the IMC is the diffusion of innovations for learning, it cannot operate without attention to minor details of organization and operation. One person cannot satisfactorily attend to all matters; however, one person will usually have that responsibility. The excellence of an IMC must be a relative matter; however relative that excellence is, it is better than no IMC at all.

The degree of excellence of the IMC will depend upon the interest and financial support manifested by the administration, the cooperation and the temper of the teaching staff, the charity of students who work in the IMC, the employment of a para-professional staff, and the ingenuity and, certainly, the patience of the IMP.

But, in the final evaluation, the IMC exists especially for deaf children as an avenue to self-realization, the power that will enable them to stir the waters of life with confidence and joy, enabling them to join their hearing brethren increating the kind of life mutually agreed upon as a happy one. How well does your IMC meet this challenge?

MEDIA PERSONNEL IN A SCHOOL FOR THE DEAF

by

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Paper prepared for Symposium on Research and Utilization of Educational Media for Teaching the Deaf, April 10-12, 1967, Lincoln, Nebraska.

Sponsored by the Department of Educational Administration, Teachers College, University of Nebraska, and Captioned Films for the Deaf, U.S. Office of Education, Department of Health, Education and Welfare, Washington, D.C.

Frank B. Withrow, Ph.D., is currently Coordinator, Unit on the Education of the Deaf, Bureau of the Education of the Handicapped, U.S. Office of Education, Washington, D. C. Previously he had been with the Illinois School for the Deaf, first as Supervisor of the Special Education Unit and then as Director of Research and Clinical Services. From 1952 to 1961 Dr. Withrow was with the Central Institute for the Deaf, St. Louis, as a classroom teacher, Audiologist, Speech Supervisor, and Research Assistant.

Dr. Withrow has a B.S. in Education, an M.S. in Speech and Hearing, and a Ph.D. in Audiology, all from Washington University in St. Louis.

Dr. Withrow has published a number of articles covering several significant educational problems of the deaf. During the past few years he has been Project Director for three important programs: (1) the Systematic Application of Audiovisual Aids to Reinforce Classroom Instruction, result of which is a set of vocabulary speechreading films, (2) Development of a Sex Education Curriculum for Schools for the Deaf, and (3) Development of a Receptive Communication Scale for Deaf Children. He has also been a consultant to the Pilot School for the Deaf in Dallas and for the Irene Johnson Rehabilitation Center in St. Louis. He has been a part-time faculty member of MacMurray College in Jacksonville and has participated in a number of workshops, conferences, and conventions dealing with the educational problems of the deaf.

MEDIA PERSONNEL IN A SCHOOL FOR THE DEAF

Our traditional concept of a school is still one of the little red school house with egg carton classrooms, several teachers, a Principal for discipline and a Superintendent in an office some place downtown. The use of media such as overhead projectors, 35 MM slides and filmstrip projectors, 16 MM projectors and 8 MM single concept films and closed-circuit television have slowly modified our stereotype concept of the school system. This is perhaps truer for the schools for the deaf than any other segment of American education. Because of the support of Captioned Films for the Deaf through such workshops and symposia as we are participating in today, the teaching procedures in most classrooms for the deaf throughout the United States have been modified and adapted for better visual and auditory presentation. The objective of all auditory and visual training is to create for the learner a total learning experience. The atmosphere that is created in the classroom calls for a sensorium of input that in some instances creates or simulates a total reality for the student. This utilization of media by our field has modified classroom construction, teaching techniques, and reorganized our thinking in terms of the personnel which serve deaf children.

Three to four years ago there were only one or two people employed as full-time audiovisual specialists in residential schools for the deaf in the United States. Today a considerable number of media personnel have moved into the organizational table of our schools for the deaf. It is time to reconsider the type of additional personnel which are needed in schools for the deaf to supplement the work of the existing professional staffs.

The Illinois School for the Deaf may provide us with a prototype for this school of the future. Currently they have upon their instructional materials staff an Audiovisual Director, an Assistant Director, an Audiovisual Secretary, an Illustrator, and an AV-Technician. It is the purpose of this paper to describe the services rendered by these individuals and to elaborate on how they aid the classroom teacher.

The ultimate objective of the goal of instructional media staff is to provide services that make the classroom or the learning experience of the child more meaningful. It is the over-all purpose of the Director to provide a system of storage and retrieval which makes accessibility to the teacher almost instantaneous. The materials in the center must be organized and cataloged in such a way that they will be readily available within the media center by the individual teacher or the individual child.

The long term goal for this Center is for it to function as a complex multi-media library.

The Assistant Media Center Director's primary responsibilities are in the area of production and development of intra-school materials and programs. This includes the ability to produce 8 MM and 16 MM motion pictures, closed circuit television programs, and other general production requirements of the individual school. It is his responsibility to direct and control such personnel as cameramen, programmers, and other production staff as they work with the educational staff in preparing learning materials for the child.

The Audiovisual Technician is responsible for maintaining in good repair all equipment including group hearing aids, projectors, cameras, closed circuit TV, dry mount presses, and other equipment provided for the classroom. He also has the responsibility to be able to adapt commercial materials and equipment to meet the specific needs of the classroom and school.

The Media Center secretarial staff has the responsibility for organizing, cataloging, booking, and distributing all materials.

The fifth member of the staff at the Illinois School for the Deaf is the Graphics Illustrator, I have saved this position until the last because it is the most critical staff position for the initiation of a media center program in a school. It is his responsibility to take ideas that teachers bring to him and turn them into graphic material for immediate use. This can be simple illustrations, overhead transparencies, filmstrips, slides, or other graphic media. He should have the ability to do simple animation for motion pictures. In addition he should be able to take an idea and work with the teacher to develop it into a graphic presentation. It was the experience of the Illinois Instructional Media Center that this staff member must be carefully selected on the basis of his ability to work with the existing staff members. Educators most frequently have been able to see an immediate use for graphic illustrations. This is the first service that will be called for by the educators once a media center is established in a school. The artist must have the ability to render rapidly and quickly those illustrations needed by the teacher and to work with them in developing more sophisticated types of sequence stories, illustrations of abstract concepts, and the use of hook-and-loop boards. It is also his responsibility to give individual instruction to the teachers in the use of dry mount presses, heat process transfer machines, and other machines available to teachers. This is the person who will take the media program to the classroom and help the teacher organize and ultilize materials more effectively than he has in the past.

The following general outline of optimum equipment in a school for the deaf indicates our concept of comprehensive media program.

Each classroom should be equipped with an overhead projector, a 35 MM slide projector, and a filmstrip projector. Each three classrooms should have access to a 16 MM motion picture projector. Each classroom should have auditory training units. Supplementary material and equipment that is desirable for self-instruction within the classroom would be a rear screen 8MM projector (Fairchild Mark IV or Technicolor 600), a Language Master, individual auditory training units, and a closed circuit television receiver.

The ultimate school design would have a cluster of learning laboratories, with self-instructional teaching devices, including closed circuit television, controlled by a computer-based instructional system. This would radically change our concept of school buildings. No longer would we have a cluster of classrooms; we would instead have clusters of learning laboratories with support rooms that are designed for tutoring, for use by small groups, and for large discussion groups. Simple drill-practice and cognitive memory tasks which are used by all learners can be performed adequately by this new technology. Simple tutor programs may be effectively designed and used in such a system. Schools of the future may provide a series of learning laboratories staffed with sub-professional instructors which guide the learner through specific tasks in a learning sensorium. The professional educator may become a different kind of person since classroom organization would vary from teacher-learner dialogues to large group discussions and even learner-learner dialogues. The future is bright for the education of the deaf, simply because we are in the forefront of modifying our concept of good education. We are beginning to take advantage of the technology that is available to us in the space age. There are many questions that must be answered such as who will provide the funds for this type of education? Who will provide the hardware? Which hardware will we select? Who will provide the software? The challenge has been made to us as educators, and we are beginning to meet it in a small way.

The educational opportunities are greater for the deaf child today than they have ever been before. It is up to us as educators to turn the possibilities into reality.

REPORT ON LIBRARY PROGRAMS IN SCHOOLS FOR THE DEAF

by

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School Library Service for the Deaf
The Convention of American Instructors of the Deaf
Under
Contract OE 04-19-066
Captioned Films for the Deaf
at
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Paper prepared for Symposium on Research and Utilization of Educational Media for Teaching the Deaf, April 10-12, 1967, Lincoln, Nebraska.

Sponsored by the Department of Educational Administration, Teachers College, University of Nebraska, and Captioned Films for the Deaf, U.S. Office of Education, Department of Health, Education and Welfare, Washington, D.C.

Patricia Blair Cory, Director of the Instructional Materials Center at the Lexington School for the Deaf, is also in charge of the teacher training program at that school. She came to Lexington in 1951 as Librarian and Coordinator of the visual education program. Since that time the facility has evolved into an IMC with a staff of five people.

Mrs. Cory is a graduate of Ursuline College for Women in Cleveland. She obtained her Masters Degree from the Graduate School of Library Science of Western Reserve University. She joined the staff of the Cleveland Public Library and was put in charge of radio programs in the Young People's Department In 1942 she was appointed to organize the Cleveland Public Library's Film Department, one of the first such departments in the nation. In 1947 she was appointed Film Advisor to the American Library Association in Chicago. In this capacity Mrs. Cory traveled extensively to lecture and conduct film workshops to assist public libraries in establishing film lending and information services.

Over the years Mrs. Cory has vigorously promoted improved library services in schools for the deaf. She has provided leadership in this area at numerous conferences, conventions, workshops, and institutes. She has written a number of articles, and is author of School Library Services for Deaf Children. More recently she was Project Director for the Survey of School Libraries in Schools for the Deaf, and at the present time she is Director of the project to write Standards for School Library-Media Centers for Schools for the Deaf.

REPORT ON LIBRARY PROGRAMS IN SCHOOLS FOR THE DEAF

This paper is a report on a project undertaken for The Convention of American Instructors of the Deaf under a contract sponsored by Captioned Films for the Deaf. Phase I of this project was a Status Study of School Library Programs in Schools for the Deaf; and Phase II involved development of Standards for Library-Media Center Programs in Schools for the Deaf. The major portion of this paper will deal with the latter phase.

The major accomplishment of the first part of the Project was a status survey of what conditions actually existed in libraries and/or libraries and audiovisual services in schools for the deaf in continental United States.

Because of the lack of knowledge regarding library service in schools for the deaf, it was felt that the information on status should be gathered, organized, expressed descriptively, and tabulated. It was also proposed that this information be compared with the 1960 ALA -NEA Standards for School Library Programs. The gathering of the information and the writing up of the comparisons were carried forward by the Project Director, on partial leave from the Lexington School for the Deaf, with the help of an Advisory Committee of distinguished educators of the deaf, and three school library Consultants who are acknowledged leaders in their profession. (See Appendix A)

The information needed was secured by on-site visits by the Project staff to thirty schools for the deaf. The criterion for choice of these visitation schools was based on a geographic distribution of public residential, private and denominational residential, and public day schools. Representative schools by population and geographic location were chosen for each type of school.

The schools visited were as follows:

By Type		By Population		By Geographical Location	
Public Residential	17	Under 250	15	Far West	3
Private Residential	5	Over 250	15	Middle West	9
Public Day	8		30	South East	3
	30			North East	15
					30

A report on the status survey has been published and can be secured from Captioned Films for the Deaf, U.S. Office of Education. A summary of the report was also published in the November 1966 issue of the American Annals of the Deaf so I will not belabor the members of the Nebraska Symposium with details which have already appeared in print, but I do urge that participants read the summary in the Annals.

Suffice it to say that the status study covered five major areas of school library service: Program, Personnel, Collections, Quarters and Equipment, and Annual Expenditures (for printed and audiovisual materials).

The information thus gathered and the comparisons made with the ALA 1960 Standards led to Phase II of the Project. Captioned Films for the Deaf gave a second grant to The Convention of the American Instructors of the Deaf to extend the Project for another year to develop Standards of Performance. A second Advisory Committee of outstanding educators of the deaf was appointed to ensure exposure of the Standards to additional educators.

This second Advisory Committee has been working with the Project staff and the Consultants to formulate realistic Standards which take into account the special needs in schools for the deaf, as well as current costs, current personnel available, and the rapid technological developments taking place in audiovisual media as well as in traditional library services.

The recommended Standards, which will be presented to the Conference of Executives and to the Convention at their meetings in Hartford in June, cover in detail the same five areas of service reported on in the status survey and propose that the term *Library-Media Centers* be used to describe the integrated type of collections and services which are recommended as desirable.

In schools for the deaf which adopt them, the major general recommendations being made will affect organization and administrative patterns as well as personnel and their professional preparation.

When the proposals for Standards for integrated materials centers which gradually evolved during Phase I were submitted for the first time to the Advisory Committee for Phase II, they unanimously and enthusiastically supported the principle of placing integrated materials and integrated staff in the same administrative-supervisory unit. The Committee having endorsed this and other principles, refined and extended them into the "Standards for Library-Media Center Programs in Schools for the Deaf", which will be presented to the memberships of the Conference and the Convention in June.

Interestingly enough, the chief question that presented itself during the discussion of the establishment of integrated Centers, or departments, was what to call such a department. The Committee fashioned a number of names that might be descriptive of its functions. Since the majority of the Committee members were reluctant to lose the name *library*, they finally agreed on *Library-Media Center*.

It was unanimously felt that students and faculties in schools for the deaf would be best served by such a Library-Media Center where unified collections of all materials were housed, organized, and indexed (cataloged) together and circulated for the convenience of all the users.

The group responsible for the preparation of these proposed Standards were not at all unmindful of the demands which such integrated centers would make upon both professional staff members and supporting staff members.

PERSONNEL

A major part of the discussion during the February 1967 Advisory Committee meeting was devoted to consideration of the chapter on Personnel. The kinds of professional staff members and the professional preparation desirable were discussed in detail.

It was thought that persons from a number of professional disciplines could work together compatibly in the Center and, indeed, their various contributions would complement one another. Thus it was recognized that some staff members might be trained teachers of the deaf, others might be professionally trained librarians, and still others might have specialized in the production and uses of the newer media.

All staff members responsible for the selection and utilization of any media should be thoroughly familiar with all the collections (print and audiovisual) so that they would be able to assist faculty and students to take full advantage of the cross-media approach to the use of materials.

Therefore it was recommended that professional staff from one discipline should take additional courses in other disciplines to become well versed in the use of all media, both printed and audiovisual. Accordingly the following recommendations were made regarding professional preparation.

Qualified librarians should have the Master of Library Science Degree from an approved library school, plus the following course content taken in a recognized training center in the education of the deaf:

1. Methods of Teaching the Deaf
2. Teaching Language to the Deaf
3. Teaching Reading to the Deaf
4. Teaching Speech to the Deaf
5. Methods of Auditory Training
6. Psycho-Social Educational Aspects of Deafness

Qualified teachers of the deaf should have a Masters Degree in the Education of the Deaf, plus the following course content in an approved library school:

1. School Library Services
2. Materials Selection (including print and audiovisual materials)
3. Reference Services
4. Storytelling
5. Cataloging

It is further recommended that persons at the Masters level have some training in the audiovisual field. If they have not had such training as part of earning the Masters Degree, course content in audiovisual should be added to the above in both categories.

It is recommended that in a Library-Media Center diversification of staff is desirable. Not all staff members have to be from the field of education of the deaf, not all have to be trained librarians, not all have to be specialists in the newer media. In fact there is strength in diversity when members of the team complement one another. With preservice and in-service training, plus experience under a competent director and exposure to work with good supervising teachers, a versatile professional team could be developed for the Library-Media Center.

QUANTITATIVE STANDARDS

Since in our recommendations on Library-Media programs, a great many services are suggested, it is clear that professional staff in quantity will be needed, plus a supporting staff consisting of secretarial, clerical, technical, to say nothing of graphic artists and other production assistants. Naturally, the size of the staff will depend, in part, upon the size of the school and the nature of its curriculum, the adequacy of the state or private budget available, and the type and magnitude of the program envisioned for the school.

However, we are discussing national standards and standards represent goals, something to be worked toward. Let us suppose, for example, we have a school that in population falls above the breaking point of 250 (the figure which is the breaking point in our proposals). Specifically let us think in terms of a school of 300-500 student population.[1]

Let us also suppose our sample school is a residential school where students are in residence evenings and weekends. The school also has a curriculum which makes heavy demands on its Library-Media Center and the faculty and supervising teachers use collateral materials and heartily endorse the multi-media approach. The assignments lead the students to the same approach. The administration is also desirous of having a sound production section for the preparation of teacher- and/or staff-made materials designed for specific uses within the school.

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[1] Of the 15 schools of over 250 population in the Status Survey 12 were in the 300-500 category and 2 were over 500.

Keep in mind also that the staff of this school's Library-Media Center gives reference service and reading guidance to individual students, faculty members, and student teachers. It selects, purchases, and processes (catalogs) the collections of all the materials and is open for circulation and service an adequate number of hours per week.

How many staff members are needed to assure that the LMC functions well? Both the first and second Advisory Committees of educators of the deaf, the school library Consultants, and the Project Staff gave this matter long and thoughtful consideration.

Included below are the recommendations being made in the Standards for such a hypothetical school as we have been discussing. As was mentioned previously, this material will be presented in June, 1967, to the Conference of Executives and the Convention of American Instructors of the Deaf.

In a hypothetical school with a population of 375, a curriculum which makes heavy demands on the Materials Center, a rapidly developing production program of 8mm films, transparencies, video tapes, programmed materials, and a large teacher preparation program, the staff might be as follows:

1. Director
2. Additional Professional Staff
    a. Professional Staff Member #1
    b. Professional Staff Member #2
    c. Professional Staff Member #3
3. Supporting Staff
    a. Graphic Specialist
    b. Secretary
    c. Clerical Assistants (one-to-one basis with professional staff)
    d. Technician

A proposed division of the major responsibilities according to each staff member's area of specialization and the qualifications for these positions follow.

Director

Competencies

He should be a person of fully qualified training in librarianship, in teaching the deaf, and in knowledge of audiovisual media.

He should have broad knowledge of books and other printed materials and of audiovisual materials.

He should have a minimum of three years experience in a classroom and/or a library instructional materials center.

He should have administrative abilities and leadership qualities.

Duties

Directs and supervises the staff.

Serves as chief liaison with administrative officers and with faculty committees.

Prepares and controls budget.

Has general over-all supervision of selection of materials.

Assigns areas of specialization and responsibility to other staff members.

Has major responsibility for professional library.

Is responsible for planning for special instruction and assistance to student teachers.

Does demonstration work as needed for student teachers and for pre-service and in-service training of faculty and staff.

Supervises schedules of the library staff for coverage of professional desks, circulation desk, decentralized libraries, evening hours, weekend hours.

Serves on the school's curriculum committee.

Initiates, or at the direction of the administration, prepares plans and projects for improvement and expansion of services.

Additional Professional Staff

Professional Staff Member #1 - Audiovisual Materials Specialist

Masters degree in education of the deaf with some additional training in librarianship.

If the director's primary qualifications are in audiovisual media and he prefers to retain for himself some of the assignments listed below, responsibilities can be assigned in different combinations and variations.

Has chief responsibility for selection and acquisition of audiovisual materials.

Consults with staff subject specialists, and grade level and departmental specialists regarding selection and use of audiovisual materials.

Demonstrates use of audiovisual materials.

Conducts in-service training programs in use of equipment.

Conducts in-service training programs in production of teacher-made audiovisual materials.

Supervises all school film production.

Supervises all school T.V. production.

Supervises graphics specialist and/or technician.

Professional Staff Member #2 - Early Childhood and Storytelling Specialist

Trained librarian with some additional preparation in work with the deaf.

Has major responsibility for work with nurseries, kindergarten, lower and middle schools.

Carries major work load of storytelling, group work, and instruction in use of the library with age groups listed above.

Has major responsibility for selection of materials for age groups listed above.

Has major responsibility for conferring with supervisors and faculty at these levels.

Prepares special bibliographies and displays for age groups listed above.

Works as general assistant during hours the center is open, assisting all individual students and faculty with questions related to reference and guidance in locating and using materials.

Serves on the curriculum committee for age levels listed above.

Professional Staff Member #3 - Junior and Senior High School Specialist

Trained Librarian.

Has major responsibility for work with junior and senior high school.

Has major responsibility for selection of materials for junior and senior high curriculums.

Has major responsibility for conferring with supervisors and faculty for these levels.

Is in charge of general reference services.

Has chief responsibility for cataloging all collections.

Supervises clerk-typist assigned to cataloging section.

Supporting Staff

Graphics Specialist

Would report primarily to Audiovisual Materials Specialist.

Has responsibility for design and production of slides and visual transparencies upon request.

Has charge of production of 8mm and 16mm film under supervision of professional staff member.

Has responsibility for reproduction of teacher-made materials.

Is in charge of exhibits, posters and realia.

Is museum liaison person.

Secretary

Serves as secretary for Director and entire department.

Correspondence.

Ordering.

Handles rentals and loans.

Supervises library aides.

Schedules coverage of circulation desks.

Assists in circulation work as needed.

Telephone

Clerical Assistants - Aides, Clerk-typists

Assist at circulation desks (for books, films, tapes, equipment, and textbook materials as they are circulated in and out to staff and students).

Assist secretary and professional staff as needed in typing, cutting stencils.

Assist in typing and clerical aspects necessary to the cataloging and processing of materials.

Responsibility for shelving (returning all types of materials and equipment to their proper places).

Filing.

Telephone.

Inventory and supplies.

Thread machines as needed.

Assist with making and mounting transparencies.

Technician

Maintains educational media equipment (might be shared with another department depending on size and volume of work on equipment in department and in total school).

Serves as chief projectionist.

Assists in training others to operate equipment.

All of us involved in the Library-Media project found the sections concerning personnel and professional preparation exceedingly interesting. I trust we will have good discussions on these subjects during the Symposium at the University of Nebraska in April.

The full text of Standards for Library-Media Centers will be published by June 1967 with certain appendices. While it is not possible or necessary to summarize the entire document here, I do wish to include in this paper brief summaries of two more sets of quantitative Standards for examination by the participants in the April 1967 Lincoln Research Symposium. The rationale and additional or qualifying statements will be discussed at the Conference.

COLLECTIONS

Printed Materials

For Students

Books. The Standards Committee for Library-Media Centers in Schools for the Deaf recommends the following range for library book collections: (1) a minimum of 10,000-15,000 books in schools having 250 students or over, and (2) in schools having under 250 students, it is desirable that even a small school have a basic collection of 10,000 books to assure variety of choice, to meet educational needs, to meet the requirements posed by broad age span as well as to provide for range of interests. It is recommended that three new titles per child be added to such a library book collection annually.

Periodicals. At least the following number of titles in the students' periodical collection: Schools having grades K-6, 25-30; Schools having grades K-8, 30-50; Junior High School, 40-70; Senior High School, 80-120.

Newspapers. At least 3-6 newspapers.

Pamphlets. An extensive number of pamphlets covering a wide range of subjects.

For Professional Staff and Student Teachers

Books. The number of titles in professional libraries should be based upon the total of all professional titles actually in print in our special field, plus a reasonable number of titles in other areas of special education and in general education. Whether or not there is a teacher training center affiliated with the school should make no difference except for the number of duplicate copies of certain titles that would be needed. Teachers, as well as trainees, deserve the best possible professional library.

Periodicals. At least the following minimum number of titles in the professional periodical collection: in education of the deaf, 10; in librarianship, 8; in audiovisual media, 5.

Pamphlets. An extensive file of pamphlets and reprints on professional topics.

Audiovisual Collections

Motion Pictures

The Standards include a statement to the effect that the size of the 16mm collections will, realistically, depend on Captioned Films for the Deaf but that funds should be available for rental or occasional purchases of other 16mm films as needed.

The statement regarding 8mm motion pictures quotes the DAVI Standards regarding the rapidity with which changes are taking place in the 8mm medium. The proposed Standards for Schools for the Deaf do not make quantitative recommendations for 8mm motion pictures at this time.

Filmstrips

For new collections just established: two per student upon opening a new collection for use.

For established collections: three new titles per student to be added annually.

Other Visual Materials

The proposed Standards contain the following quote from DAVI Standards:

> *Each item listed must be supported with a fair share of the funds expended for media. The over-all objective of the media program should be to provide a wide variety of audiovisual materials with no one item dominating the program.*

Our Committee recommended that, in addition to Captioned Films materials and purchased filmstrips, schools for the deaf should provide audiovisual materials such as those listed below as needed in the curriculum:

- 8mm films
- 2x2 slides
- 3¼x4 slides
- transparencies and transparency masters
- study prints
- maps
- globes
- dioramas
- tapes and disc recordings
- realia
- art objects

Audio Materials

It is not possible at this time to formulate quantitative standards for audio materials due to the special function which sound materials perform in schools for the deaf. Traditionally these materials have been used primarily for auditory training and have been administered in supervisory units other than libraries or Library-Media Centers. In some schools for the deaf audio materials are currently being transferred to the LMC. *As experience is gained, the matter of quantitative guidelines for audio materials should be reviewed.*

General Recommendations

The 16mm and 8mm motion picture collections and similar visual educational media as well as audio materials should be in the same administrative-supervisory unit as the library (book collections and other printed materials), thus establishing integrated collections of materials.

All staff members responsible for the selection and utilization of any media should be thoroughly familiar with all the collections (print and audiovisual) so that they will be able to assist faculty and students to take full advantage of the cross-media approach to the use of materials. It is the consensus of the Committee on Standards that such service can best be achieved through integrated Library-Media Centers with unified staffs as well as unified collections, organized and indexed (cataloged) together for the convenience of all.

EXPENDITURES

The annual expenditures recommended in the proposed Standards are for educational and recreational library books, reference books, and audiovisual material only. They are *not* intended to include funds for textbooks, workbooks, equipment, supplies, or personnel.

Printed Materials

Schools having 250 or fewer students

Recommended minimum $3,750-$5,000. To be provided for in addition: Reference books, encyclopedias, dictionaries, pamphlets, periodicals, and newspapers.

Schools having more than 250 students

Recommended minimum $5,000-$9,000. To be provided for in addition: Reference books, encyclopedias, dictionaries, pamphlets, periodicals, and newspapers.

Schools with senior high schools

It is extremely difficult to estimate how much a school's budget must be increased to provide an adequate supply of printed materials for a senior high school program.

Schools maintaining senior high school programs or working toward accreditation should appropriate additional funds for the needs of senior high school students and faculty. One rule of thumb would be at least an additional $1,000 be added for additional printed materials after minimum requirements have been achieved.

Audiovisual Materials

The Department of Audiovisual Instruction of the National Education Association adopted quantitative Standards for various aspects of an audiovisual program in December, 1965. For provision of materials, they recommend a budget of 1.5 per cent of the instructional cost per child per year.

In schools for the hearing this calls for an appropriation of approximately $6.00 per child annually. It is thought that this is not enough for schools for the deaf.

It is recommended that this amount be doubled in schools for the deaf and that a floor for expenditures for audiovisual materials be established to ensure an adequate supply of these important materials even in the smallest of schools.

Recommended minimum is $1,000 annually plus $12 per student annually.

Professional Library

For a professional library in schools with no teacher training program the recommended minimum expenditures for books is $1,000-$1,500 plus magazines and audiovisual materials as needed.

For a professional library in schools with a teacher training program the recommended minimum expenditures for books is $1,500-$2,500 plus magazines and audiovisual materials as needed.

APPENDIX A

PROJECT ADVISORY COMMITTEES
and
SCHOOL LIBRARY CONSULTANTS

Advisory Committee - Phase I

Mr. Lloyd A Ambrosen, Superintendent
Maryland School for the Deaf

Mrs. Betty Bollack Evans, Educational Consultant
Pennsylvania School for the Deaf

Dr. William J. McClure, Superintendent
Indiana School for the Deaf

Miss Majorie E. Magner, Supervising Teacher
The Clarke School for the Deaf

Mrs. Lucille Pendell, Librarian
Gallaudet College

Dr. Stanley Roth, President
The Convention of American Instructors of the Deaf
Kansas School for the Deaf

Mr. Ben M. Schowe Jr., Librarian
Ohio School for the Deaf

Dr. Roy M. Stelle, Superintendent
New York School for the Deaf

Advisory Committee - Phase II

Mr. Lloyd A. Ambrosen, Superintendent
Maryland School for the Deaf

Rev. Thomas Bartley, Director
DePaul Institute

Miss Eileen Connelly, Principal
Horace Mann School for the Deaf

Mr. Ben E. Hoffmeyer, Superintendent
North Carolina School for the Deaf

Miss Marjorie E. Magner, Supervising Teacher
The Clarke School for the Deaf

Dr. Kenneth R. Mangan, Superintendent (Chairman of the Project, Phase II)
Illinois School for the Deaf

Dr. William J. McClure, Superintendent
Florida School for the Deaf

Dr. Hugo Schunhoff, Superintendent
California School for the Deaf

Dr. Edward R. Tillinghast, Superintendent
Arizona State School for the Deaf and Blind

Dr. Armin G. Turechek, Superintendent
Colorado School for the Deaf and Blind

School Library Consultants

Dr. Richard N. Darling, Director
Instructional Materials Center
Montgomery County Board of Education
Maryland

Dr. Frances Henne, Professor
School of Library Service
Columbia University
New York

Miss Mae Graham
State School Library Supervisor
Maryland State Department of Education

Project Director
Mrs. Patricia Cory, Director
Library-Media Center
Lexington School for the Deaf

IMPLEMENTING THE MEDIA PROGRAM IN SCHOOLS FOR THE DEAF

by

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Paper prepared for Symposium on Research and Utilization of Educational Media for Teaching the Deaf, April 10-12, 1967, Lincoln, Nebraska.

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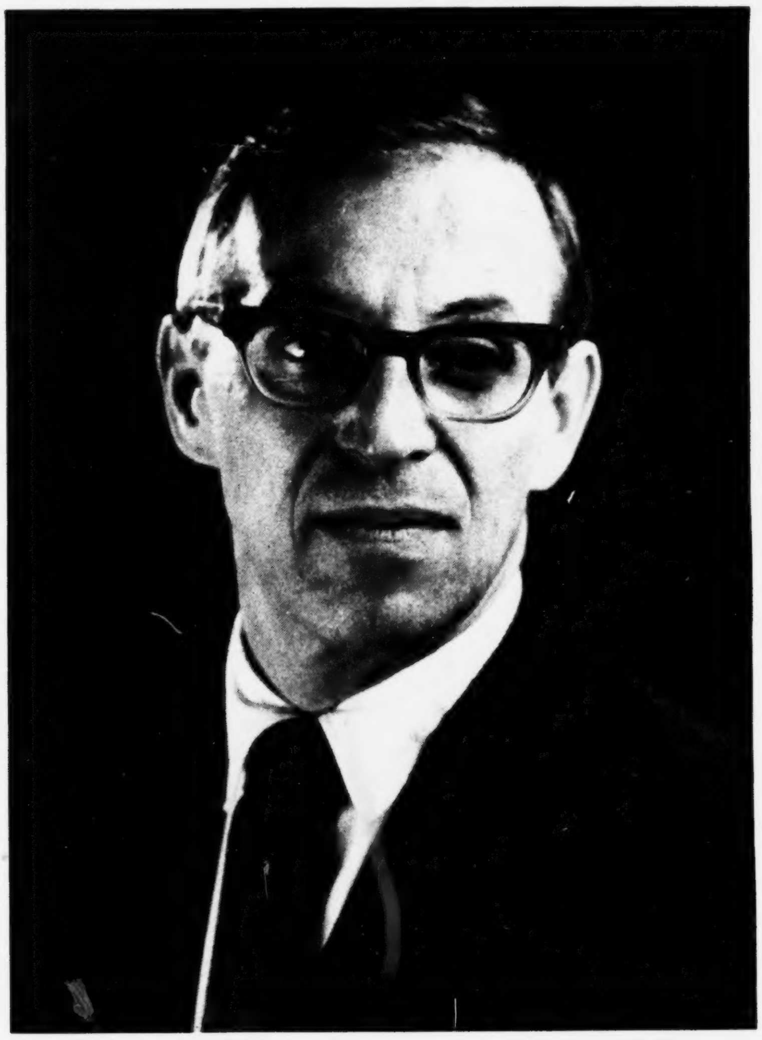

Richard L. Darling, Ph.D., Director, Department of Instructional Materials, Montgomery County Public Schools, is a native of Montana who obtained his B.A. and M.A. from Montana State University. He received his Ph.D. from the University of Michigan on top of an M.A.L.S. from the same institution.

Dr. Darling began his career in education as a high school English teacher in Choteau, Montana, in 1951. Successive steps on the ladder to his present position included: Librarian at University High in Ann Arbor; Assistant Professor at Montana State; Library Coordinator in Litvonia, Michigan; School Library Specialist for the U.S. Office of Education; and Supervisor of Library Services and Assistant Director, Montgomery County Public Schools. At the same time Dr. Darling has served a number of educational institutions as visiting professor and extension lecturer.

A frequent contributor to education and library periodicals, Dr. Darling has written or contributed to the following well-known publications: Survey of School Library Standards, Public School Library Statistics, and Library Facilities for Elementary and Secondary Schools.

Dr. Darling is President of the American Association of School Librarians for the 1966-67 term.

IMPLEMENTING THE MEDIA PROGRAM IN SCHOOLS FOR THE DEAF

If school media programs for the hearing have been a weak and sickly nutrient for the growth of learning, then media services in schools for the deaf can hardly be considered support at all. Mrs. Cory's study has shown the sad plight of school libraries and instructional materials programs in these schools. With a few notable exceptions they were understaffed or without staffs at all; they had collections too small for their function; they were maintained by annual expenditures too small to do the job; they were poorly housed; and, as a result, had little to offer the learner. Approximately two-thirds of the schools she studied were so far below any minimum standard of media service that it is doubtful whether they had any impact at all.

When we consider that these schools educate children with the most severe handicap of all educable children, it is obvious that media services in schools for the deaf have been even more deficient than Mrs. Cory's study reveals. At first glance, it would be easy to say that they are not so different from schools for the hearing which have only a few examples of good media services, the majority having the same inadequacies or no service at all. However, in order to accomplish the same educational goals, media services for the deaf need to be three times as extensive as those for the hearing. The new standards resulting from Mrs. Cory's study reflect that fact. Public school systems with extensive programs for deaf and other handicapped children have begun to weight them as equivalent to three other children for funding their education. Not even the architects of the best media services can afford to be complacent. In schools serving deaf children, where the problems of education are so much greater, the effort has to go beyond what we today consider as standards of excellence. A Knapp School Library Project in a school for the deaf, if it were to be a demonstration of desirable levels of service, would go far beyond the programs Miss Sullivan discussed at lunch today.

The educational media program essential to the education of deaf children, and indeed for all children, is a service that brings to the support of their learning all educational media, so organized and so deployed that they can derive the maximum benefit from each medium, and augmented benefits from combinations of media. To accomplish this goal, each school needs a single, unified educational media service of high quality, supported by auxilliary services from higher governmental and organizational levels -- state, regional, and federal. The school media program should combine in a unified service all types of instructional materials and equipment systematically organized so that they can be related to the instructional program in a variety of desirable ways -- for group instruction and for independent study, for basic learning and for reinforcement, and to achieve learning experiences in various content areas to which they may contribute.

Whether we are discussing schools for the deaf, or schools in general, there are certain significant developments in our society with which we must be concerned. In less than a generation we have seen a revolutionary change. New and improved transportation and communication have brought boundaries closer to one another. Through communication satellites we see and hear men who are continents away. Supersonic planes, under construction or on the drawing boards, will soon make New York and Paris as close to one another as Lincoln and Omaha. Modern medicine has made possible a huge population in our growing cities and improved agriculture has provided their subsistence, so that ever increasing numbers of the world's population are urban dwellers. This is the kind of world for which we are educating our children.

In the past several years we have seen education responding to this altered world in which our young people must live. National professional associations and groups of scholars have developed new curricula in their subject fields, and, in some cases, systems of educational media to be used in their presentation. The schools have responded by accepting innovation in curricula and in organizational patterns for instruction on an unprecedented scale. But they have not moved as rapidly in adopting new methods and new technology which would facilitate needed change. It seems to me, an outsider in education of the deaf, that schools for children with impaired hearing can lead the way in using technology to achieve recognized educational goals for all children while accomplishing their own specialized goals. This they can do by utilizing all media in an innovative and exemplary manner.

Other speakers at this conference have described their concept of the instructional materials center, exemplary programs of materials and services in schools for the deaf. However, at the risk of redundancy, I wish to review the components of a comprehensive media program in order to develop some ideas related to its services that are essential to achieving the goals of improved education.

The Media Program

The modern educational media program has been created from preexisting components augmented by newer ones. On the most basic level it has been developed through the merging of traditional school library and audiovisual services, but when the media program approaches fuller development, it also includes advanced electronic technology, including television and computer-assisted instruction. The most striking characteristic of a good educational media program is the diversity of its services with the most far-ranging variety of media -- printed, audiovisual, and transmitted. A brief and incomplete examination of the materials provided by a comprehensive media center demonstrates its diversity.

The media program should include materials for listening, for viewing, and for reading, each type used for its contribution to the study of a specific topic, or to the learning needs of a particular child. Each type should be accepted for its own integrity and for its value in education.

A large portion of the collection, though by no means a majority, should consist of printed materials. This should be as true in schools for the deaf as in other schools. Because of the special problems in reading of most deaf children, the collection of printed materials should include disproportionate numbers of books which are easy to read but have a high interest level. Nonetheless, they must cover the full range of the curriculum at varied levels of difficulty.

The collection will also include other types of printed materials, such as magazines and newspapers, both in paper and microfilm form. The need for larger collections to meet individual needs and interests mandates provision of many items on microfilm, a trend that is only beginning in schools, but is sure to grow. Like schools for the hearing, schools for the deaf should make increased use of paperbacks, both for their usefulness in expanding collections quickly and inexpensively, and for their great appeal to the young. Programmed books and programmed materials for use in teaching machines, with their capacity for immediate reinforcement of learning, have an important role in remedial study and in independent learning. Media centers in schools for the deaf will also include special materials developed for their students, such as the Project Life materials and others. Not to be overlooked are large-type books, prepared for the visually handicapped, but of proven value in reading instruction for all children needing greater security and self-confidence in their learning process.

The collection of auditory and visual materials is even more varied than the collection of printed materials. Even a partial list gives a picture of its scope. It includes 16mm motion picture films, which have been used primarily for group instruction, but are equally effective for individual study. In schools for the deaf 16mm films may be primarily captioned films, but research and observation have shown that regular films, when carefully selected, can be used effectively in the education of hearing-impaired children. Project

Discovery has demonstrated how both teachers and students will use 16mm motion picture films when both the films and projectors are easily accessible.

The 8mm film may soon be, if it is not already, even more important than 16mm. Mounted in cartridges for ease in use and handling, 8mm film loops are ideally suited to individual study by students. As you know, many 8mm film loops have been developed specifically to meet the needs of deaf children, such as those prepared under Dr. Stepp here in Nebraska.

Filmstrips are another medium well-suited to individual study. They may be particularly valuable when accompanied by suitably amplified disc recordings, or by tape recordings carefully prepared by the teacher or the media center staff.

Slides and slide sets, related to the curriculum and especially to speech and reading instruction, should be included in the media collection. Slides have the added advantage that they can be easily produced locally to fit clearly identified needs.

Disc recordings, tape recordings, and Language Master cards can be especially useful in the education of children with some residual hearing. Indeed, these materials, and the equipment to use them, should be available for constant use to every teacher of the deaf. In our Montgomery County program for children with hearing impairment, a Language Master is part of each teacher's classroom equipment.

Transparencies, popular and useful in all educational programs, have proven themselves particularly valuable in schools for the deaf. Speakers at these Lincoln conferences have identified the closer attention the teacher can give to the students, and the greater visibility of the teacher to the students among the virtues of transparencies and the overhead projector. But equally important in the child's education is the fact that this is a medium he can readily create himself. While with many media, and particularly print, the child is all too prone to copy and report what he has read or heard. When he has the opportunity to create transparencies, slides, or films to report his learning, he is forced to analyze, digest, and synthesize in order to create something new and different. That synthesis is the very essence of learning.

The media collection also includes maps, charts, and globes, centrally inventoried so that the entire school may use them, but often housed in classroom needing them most frequently. A good program will also include study prints and art prints in profusion.

For the elementary level students, who usually do not have access to science laboratories, the media center provides simple science equipment, exhibits of rocks, and other realia and models. It supplies models useful in social studies as well as those in science.

In order to provide services with these kinds of materials, the media center must supply the necessary equipment. The media center inventory should include projectors, tape recorders, record players, bioscopes, listening stations, individual and small group viewers, Language Masters, radio and television receivers, and other necessary equipment. The media program provides materials, equipment to use them, and knowledge of their use.

Media Center Facilities

Though concepts in the planning and design of schools are changing, the design of media centers has changed even more rapidly to enable teachers and students to use media in new ways. The traditional school library often provided just one reading room. The traditional audiovisual center was actually on most occasions, only a viewing room. Today's media center provides facilities for a variety of activities, large group, small group, and individual, and for use of the full range of media.

The present emphasis on independent study has led school planners to question the value of large reading rooms and of separate viewing rooms. Instead they are designing several smaller rooms in the media center for small group and independent study, and every classroom is equipped to accommodate whole class viewing.

Within the media center, the arrangement in furnishings have changed. The traditional school library multi-student tables have been replaced by individual study carrels. Many students, perhaps most, given a choice, prefer to work in small areas, or alone in the semi-isolation provided by a carrel. They are increasingly used for both elementary and secondary grades. For elementary school students, schools have removed the traditional library's rows of tables and replaced them with low tables, stools, and other furniture designed for young children. The media center is often carpeted, and in the elementary grades the floor is where many children sit.

The media center must provide areas to accommodate both listening and viewing activities by small groups. Carrels, equipped with electrical outlets, or with built-in electronic devices should be purchased or locally designed, so that the students may use the full range of media easily in individual study.

One of the most important areas in the media center is the materials production areas where students, teachers, and media specialists produce such instructional material as transparencies, slides, tapes, and motion pictures. The production area needs careful planning so that the necessary equipment can function properly. Equipment located there may include copying machines, ammonia transparency makers, camera copying stands, paper cutters and dry-mount presses, spirit duplicators, and other machines used in production. The room's design should provide appropriate counters and work tables to handle the equipment, and storage cabinets for film and other needed materials. The production area should also include a photographic darkroom.

To implement a media program, however, attention to the center is only half the job. Planning classrooms for multi-media is equally important. In residential schools the dormitory is a third area vital in the use of media in learning. Each classroom must be equipped for projection with appropriate screens, darkening shades or blinds, and have projectors and other electronic equipment for group and individual use. The residence hall should include facilities for independent study using varied media.

It is not necessary, here, to go into the detailed planning of facilities, which has or will be discussed by others on this Symposium. I only wish to remind you that there are many other aspects of facilities which need careful attention in implementing a media program, such as shelving, storage, and so forth. Schools which plan to use closed circuit television, and all schools should in the near future, need to include television facilities as part of the media center.

Organization and Services of the Media Program

In order to encourage maximum use of all media, each one needs to be as accessible as possible to all students and teachers. Differences in format do enforce differences in the way media are used and shelved, but they should all be housed where students have free access to them. Teachers and students should find, in the media center, one catalog which indexes all media in a single alphabetical file, with subject, title, author and artist where appropriate, approaches to the materials. Both students and teacher, searching for material on a given topic, should expect to find all media related to it indexed in one source, and, to the extent possible, shelved in close proximity. Needed equipment should be nearby for ready use.

Organization can help in implementing a media program, but organization of the center itself is not enough. Utilization of media to the full benefit of children requires a particular attitude toward learning and toward children which only the school administrator can develop. The reluctance of teachers to let pupils go freely to media centers to do independent study and research is a major problem in all schools. Many teachers actually enjoy the child's dependence upon them. Teachers of the deaf, I fear, have been even more reluctant, perhaps understandably, to permit their students the freedom to go independently to other learning centers except with an entire class. But just such freedom is essential if children are to be self-sufficient in the learning process. A full media program is possible only when children are encouraged to be self-reliant. The principal and superintendent must create the atmosphere through work with the school faculty that gives teachers confidence in permitting pupils the requisite freedom for learning outside the classroom.

Media service, to be most useful, must concentrate on the needs of pupils and teachers. Neither the rigid programs of traditional school libraries, nor the emphasis on group instruction of traditional audiovisual programs provides a satisfactory pattern for today's media program. The media specialist must work closely with teachers, assisting them in planning units of instruction so that media may contribute effectively to teaching and so that they can do follow-up work with students in the media center. Another vital service to teachers is continuing in-service education in the use of media to upgrade the quality of teaching.

With students seeking the media center for identified study and research needs, the media specialists should give them the close individual guidance in reading, listening, and viewing that is essential for maximum benefit from materials. The time formerly used for extensive and often wasted library lessons for classes, should be devoted to helping students locate materials, or finding materials for them, to assisting them in assessing the value of materials for their assignments, and to teaching them the values, strengths, and limitations of each medium.

Above all, the media center must provide flexible procedures and extended services. Lengths of loans should be geared to student assignments, and not to the calendar. It should be possible for students to check out materials for use at home, in study carrels within the school, or in the dormitory for long periods of time. The media center, especially in resident schools, should be open for service in the evenings, on weekends, and at any other time children may need materials.

The services of the center should permeate the entire school, reaching to classrooms and dormitories, and should not be a service that merely waits for users to come. With the advent of dial access and increased use of closed circuit television, there is no reason that all media resources cannot be available to students and teachers wherever and whenever they are needed.

At the risk of repeating myself to the point of tediousness, let me repeat again that media production is a service program as well as facilities. We all chuckled this morning because, in some schools, the copying machine was in the Principal's office or locked in a closet. We should be equally shocked, even horrified, to discover schools where only media personnel and teachers have access to production facilities which can do so much in the development of learning in pupils.

Media Personnel

The media services essential for modern education in all schools, but especially in schools for the deaf, require a new type of media professional. He must know curriculum and learning theory. He must know educational media and their value and uses in education. He must have the ability to bring administrative techniques and creative imagination together to develop media services that meet the needs of today's schools.

In order to help us implement media services, institutions of higher education will have to initiate new kinds of programs for educating media specialists, programs which fuse the best aspects of library and audiovisual education. In the meantime we should use summer workshops and federally supported institutes to update or retrain many of our present workers in the field and to provide needed skills to our classroom teachers.

Better education of media specialists will help, but it is no substitute for numbers. The new American Association of School Librarians -- Department of Audiovisual Instruction Standards which Dr. Faris discussed this morning, call for one media professional for each 200 students in school for the hearing, with one supporting staff member for each professional, including media aides, technicians, artists, and so forth. In schools for the deaf three times as many staff members at the professional level, should have special competencies and understanding of the education of the deaf.

There are those, I am certain, who will consider these standards unreasonably high. They are high if we are talking about staffing traditional school library and audiovisual programs. We have all seen programs run by a single person, which were in truth overstaffed, but we are not talking about those programs. We are talking about media programs of sufficient quality and so plentifully supplied with media and facilities that they add a new dimension to the learning opportunities of students, and to the professional ability of teachers.

This afternoon Mrs. Cory described new media standards for schools for the deaf. They are higher, and rightly so, than standards for other schools. You have an opportunity, using those standards and the increasing federal aid funds, to be pace-setters in improving the quality of American education. You can prove the value of even the newest techniques -- dial access, television, and computer-assisted instructions. By using these standards you can develop the most exemplary media services provided for any children in the United States and for those who need it the most. I hope you will do it.

MEDIA PERSONNEL AT SCHOOLS FOR THE DEAF

by

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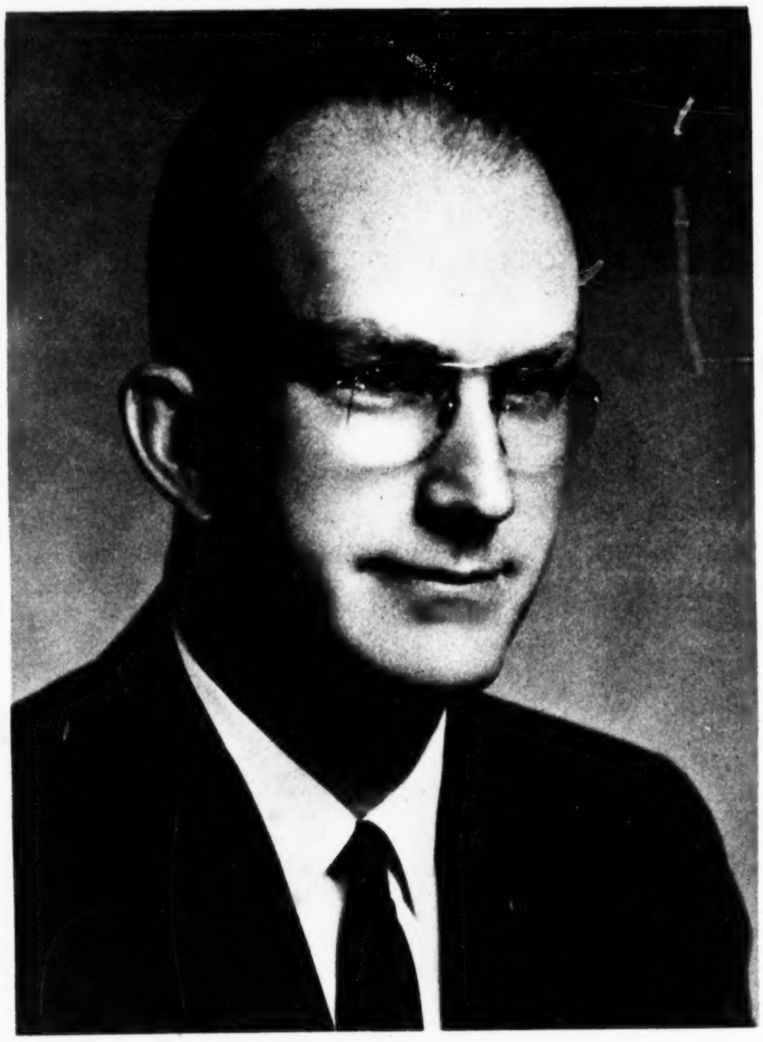

Raymond Wyman, D.Ed., is Project Director of the Northeast Regional Media Center for the Deaf and Professor of Education and Director of the Audiovisual Center at the University of Massachusetts. A graduate of the University of Massachusetts, Dr. Wyman obtained his M.Ed. and doctorate at Boston University.

Dr. Wyman has been with the University of Massachusetts since 1949. Previously he was Audiovisual Supervisor for the Holyoke, Massachusetts, Public Schools and A-V Supervisor and Science teacher at Westfield.

Dr. Wyman has been making a vast number of contributions to the audiovisual field. At the present time, in addition to the positions mentioned above, he is Project Director for a USOE contract to determine feasibility of establishing mobile media services to rural schools. He is also Chairman of the Master Planning Committee for the University of Massachusetts, Chairman of the Technical Standards Commission of the DAVI, and active in several professional organizations.

At one time or another Dr. Wyman has been visiting lecturer at several universities, and has also been consultant to a number of colleges and industries on audiovisual projects.

Dr. Wyman has had articles published in Educational Screen, Massachusetts Teacher, Massachusetts Alumnus, School Equipment News, American School Board Journal, Audiocraft, Audiovisual Instruction, The Instructor, The Education Digest, and Music Education Journal. He has also written a number of booklets and is author of an A-V Laboratory workbook, "Audiovisual Devices and Techniques".

MEDIA PERSONNEL AT SCHOOLS FOR THE DEAF

Educational media, both book and audiovisual, have recently gained a lot of visibility in schools for the deaf, just as they have in hearing schools. There is hope and expectation that they will soon not only be visible, but actually integrated into the teaching and learning programs of our schools on a wide and regular basis so that the handicapped children under our care can have an optimum opportunity to prepare for a full life.

Everyone today seems to be in favor of the wide and effective use of all kinds of media in the education of the deaf, but being in favor and actually attaining optimum use are worlds apart.

1. There must be support from the administration in the form of encouragement, reward for innovative and superior teaching, and budgetary support for the purchase of the material parts of the program.
2. Equipment must be provided in the classrooms or in close proximity to the places where it will be used.
3. Libraries of book and non-book software must be acquired, cataloged, stored, and easily retrieved.
4. Local production of specially tailored media must be available to complement and supplement commercially prepared materials.
5. Time must be available as part of the regular in-school assignment to preview, prepare, and rehearse the newer media. Most

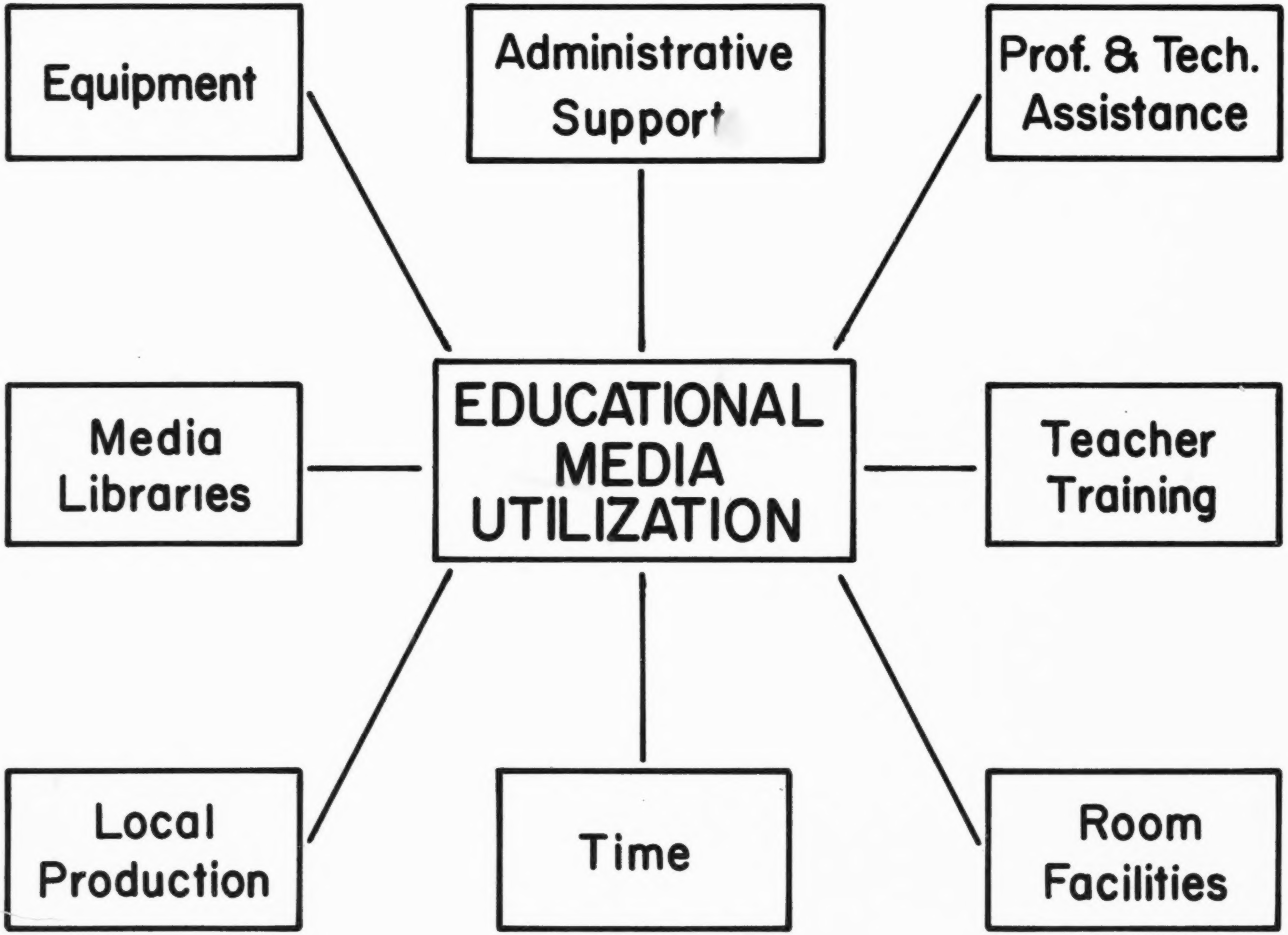
Equipment
Administrative Support
Prof. & Tech. Assistance
Media Libraries
EDUCATIONAL MEDIA UTILIZATION
Teacher Training
Local Production
Time
Room Facilities

Figure I

Conditions to be Met in Media Utilization media preparation cannot be done in the teacher's home.

6. Rooms must be equipped with sound control, light control, electrical outlets, and commonly used equipment.
7. Teachers must be trained in all aspects of media selection, preparation, and utilization through in-service courses, workshops, institutes, or in regular university programs.
8. Teachers must have professional, technical, and clerical assistance if the media are going to make a real contribution in our schools. The team approach to solving educational problems holds great promise.

This last requirement is the primary concern of this paper. What personnel are needed in a school for the deaf in order to make it easy and likely that teachers and students will actually integrate media into their teaching and learning activities? It may help our thinking to consider separate equipment, library, and production shops at a school even though some combination of them may be needed in smaller schools.

Every school needs a hardware or equipment shop where projectors, previewers, recorders, amplifiers, earphones, etc. are acquired, stored, serviced, and kept accessible for a teacher or student to use in a presentation or for individual study.

Every school needs a software or media library that includes all of the books (other than classroom texts), films, slides, strips, recordings, programs, etc. that will be needed in presentations and for individual study. These materials need to be acquired, cataloged, stored, and maintained in good order. Most of all, these materials need to be readily available to both teachers and students who seek help without even knowing in what form it might be found.

We also need a local production center where recordings, brief motion pictures, "2x2" slides, overhead transparencies, maps, graphics, mounted pictures, booklets, and hand-out sheets can be prepared to meet special needs for media that cannot be satisfied with commercial materials.

Some personnel for the media program do not need professional training or experience in teaching either normal or hearing-impaired students. We should make maximum use of such sub-professional people in order to avoid raiding our classrooms for people who not only are unneeded but who may not do the job as well as sub-professionals who have been specially trained. It may be necessary to establish new programs in two year community colleges, junior colleges, or technical institutes to train such people.

The hardware or equipment within the shop and all over the school can be best selected, stored, maintained, repaired, adapted, transported, set up, and operated by trained technical persons. There was a time when most men teachers on the staff could be expected to make equipment decisions and operate it. This is no longer the situation.

Equipment comes in a great variety of makes and models with technical characteristics for special applications. Teachers not only want an overhead projector, they want one with pictures that are bright, sharp, steady, and free from annoying glare. They want it portable or fixed. They want low heat and minimal noise. They want the post in one specific location. They want an acetate roll that goes in a certain direction.

They want a power cord X feet long and a lamp type that is available in the stock room.

Equipment is becoming more complex and changing rapidly. Descriptions of the relatively simple overhead projector now assume understanding of UL approval, amperes, thermal circuit breakers, fresnel lenses, focal length, color separation, quartz iodine lamps, resolution, etc.

Equipment is now spread all over a school so that regularly used items will be in every classroom, frequently used items near every classroom, and other items in the central hardware shop. Service must be available quickly at the point where the equipment actually is. When equipment is integrated into the regular teaching-learning situation, its failure must be only temporary. We cannot afford to have truckmen put a machine pickup on their schedule and keep it out of service for days. Service must be quickly done in or near the classroom or a spare machine must be substituted for the machine that needs shop repair.

Equipment will usually be operated by the teacher or a student. However, there are times when a technician is needed for a large group, for demonstrations, for testing, or for some new or novel application of technology.

Most audiovisual equipment is not made for teaching the deaf. We often want special changes or adaptations made in order to use it more effectively. The hardware shop should be equipped and staffed to do at least some of this. The most common adaptation results in a series of machines working smoothly together by remote control to produce a multi-media teaching unit.

Technical personnel currently available have been trained either in photography-projection or audio-electronics. We really need a combination of the two fields in a two-year technical education program. With the tremendous increase in equipment purchase by all schools under federal programs, there would seem to be enough demand to initiate such programs in many technical schools, community colleges, or junior colleges.

The software library of book and non-book materials needs one or more specially trained people to order, inspect, catalog, store, maintain, repair, and retrieve on demand any materials wanted for any purpose by teachers or students. This is primarily a clerical operation with some low-level technical jobs included. It should have as its primary responsibility the rapid location and delivery of information sources to anyone. Information should come first and the manner of presentation should be secondary.

The software clerk-technician would seem to need a two year junior or community college education that includes considerable library science and some audiovisual techniques.

The local production shop needs a trained technical person and all of the equipment necessary to make projection or paper photographs from real things or tear sheets. It should be able to make recordings from live performances, other recordings, or indigenous sounds. Any number of good quality paper copies of examinations, stories, or problems to solve should be available on short notice.

Local production of graphics for display on the bulletin board, "2x2" slides and overhead transparencies is particularly important.

We need large numbers of relatively simple and labeled materials. We usually need the skills of a sign painter or poster maker more than real artwork. Our needs more often involve high contrast line drawings and simple lettering rather than shading and fancy lettering.

We also make much use of mounted and laminated tear sheets. Machines and materials are now available for doing this job quickly and efficiently, but only by a person who does it regularly.

The local production person needs training in photography, mechanical drawing, and free hand drawing. This combination of skills could easily be developed through a two year technical or junior college program.

It appears that we have taken care of the whole library and audio-visual program without the need for professional personnel. This is not the case. The school for the deaf must have one or more professional media specialists who have also had teaching experience to do the things that no clerical or technical personnel can do.

A media professional needs to administer or direct the three shop areas so that their services will be in keeping with the policies of the administration and the needs of the teachers and students. It will become a substantial operation. Leadership is required. Vision to see beyond the present state of group and individual instruction is needed. Innovation involving media must result from study, travel, and dreaming based on practical knowledge of teaching and learning. No sub-professional can do these things.

A media professional must be available to work directly with teachers on media applications to group teaching techniques. Teaching on television was improved tremendously by employing a professional producer who observed the teaching and who suggested alternate techniques, use of media, pacing, etc. It is time that we made use of a similar person in our schools to help classroom teachers to teach effectively with media. There seems to be no reason why larger groups cannot be taught effectively by one teacher with the help of available media. The concept of twenty-five students always with one teacher is being abandoned in favor of flexible groupings in hearing schools. The concept of always eight students in the deaf classroom needs to be seriously questioned.

This media professional might be called a presentation specialist. He would know the contents and capabilities of the software, hardware, and production shops. He would know much about projection, lighting, acoustics, group dynamics, and sophisticated presentation techniques. He would work with the curriculum committee to work directly with students. Studies everywhere indicate that students can and will accept much more responsibility for their own education. Much of this will be done in a library or individual study carrels.

The specialist in individual study would also know the contents and capabilities of the software, hardware, and local production shops. He would also be an expert in working with individual students as they search for, select, and use reference books, supplementary texts, films, recordings, slides, newspapers, periodicals, and specially programmed materials. He would have particular competencies in choosing carrels and systems to go with them. He would be a sympathetic and patient helper to the student with a problem. He would also do much of the evaluation of learning outcomes.

In a small school, one media professional might supervise the three clerical, graphics and technical persons as well as working with teachers and students. In larger schools several media professional specialists would be needed with a natural division between group and individual instruction.

Where would the specialists come from? Audiovisual people would most likely move into the presentation area as they learned about producing presentations, group dynamics, research design, room construction, etc. Librarians would most likely move into the individual study area as they learned about newer media used in individual study, carrels, evaluation, guidance, and particularly programmed instruction. Graduate programs could be established for the future training of these new educational specialists.

Adapted from article "The Instructional Materials Center: Whose Empire?" in AUDIOVISUAL INSTRUCTION for February, 1967, p. 114.

IN-SERVICE EDUCATION PROGRAM FOR TEACHERS OF THE DEAF

by

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Paper prepared for Symposium on Research and Utilization of Educational Media for Teaching the Deaf, April 10-12, 1967, Lincoln, Nebraska.

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Marshall S. Hester has been an educator in and administrator of schools for the deaf since 1927. He was Superintendent of the New Mexico School for the Deaf from 1944 until his retirement August 31, 1964.

Since September, 1964, Dr. Hester has been Project Director with the New Mexico Foundation, Inc., and adjunct of New Mexico State University at Las Cruces, New Mexico.

A graduate of Marion Institute, Marion, Alabama, Dr. Hester received a B.S. degree from Millsaps College, Jackson, Mississippi, in 1931. He prepared for teaching in the field of the deaf at Gallaudet College, where he was granted an M.A. degree in 1932. He has done graduate study in educational psychology at the University of California. His articles - "Education of the Deaf Child", and "The Hard of Hearing Child" - were published in the _California Journal of Elementary Education_. His "Hearing Aids and Their Use" appeared in the _Journal of Exceptional Children_. He presented a paper "Manual Communication" at the International Congress on the Education of the Deaf at Washington, D.C. in 1963.

Dr. Hester has a three-year term as President of the Conference of Executives of American Schools for the Deaf. He received an Honorary Doctor of Letters Degree from Gallaudet College in 1960. In 1961 Dr. Hester was named "Man of the Year" by the Gallaudet Alpha Sigma Pi Fraternity. He was selected for this honor for his many years of work in the field of the deaf. In 1964, he received the "Award of Merit" from the Conference of Executives of American Schools for the Deaf. Dr. Hester was Project Director of the University of Tennessee National Workshop on Improved Opportunities for the Deaf held in 1964. For sixteen years, he served on the Board of Managers of the New Mexico Congress of Parents and Teachers. He was the first President of the Section for Exceptional Children in the New Mexico Education Association.

IN-SERVICE EDUCATION PROGRAM FOR TEACHERS OF THE DEAF

When Captioned Films for the Deaf began the distribution of instructional media materials to schools for the deaf, it soon became apparent that teachers of the deaf did not know what to do with them. Accordingly, Captioned Films contracted with the New Mexico Foundation, Inc., as a pilot project, to promote the use of instructional media in schools for the deaf in twelve states.

The first formal effort at dissemination was a two-day workshop held in February, 1965 at the Georgia School for the Deaf at Cave Spring, Georgia. Participants in the workshop were supervisory personnel from schools for the deaf in five states. The program provided several speakers who discussed the various facets of the Captioned Films for the Deaf program and extoled the virtues of instructional media. The talks were followed by work sessions in which participants made transparencies, did some dry mounting and lettering and operated equipment. Participants were unanimous in expressing the idea that the overhead projector, the 16mm projector, and the filmstrip projector, together with all of the materials that go with them, would contribute to the improved education of deaf children.

Many workshops have been put on since the first one at Cave Spring. They followed the general format of the first one. However, changes developed in a process of evolution, the result of a better understanding of the needs of the teachers of the deaf. In addition, the workshops and programs have been put on for different groups of varying interests and needs. For example, programs have been put on for parents of deaf children, combination groups of parents and teachers, teachers of deaf children, and trainees preparing to be teachers of the deaf. These programs have varied in duration from two hours to a whole week. More recently, the typical workshop has run two days and has lasted six to seven hours each day.

The workshop at Cave Spring was followed a week later by a similar workshop at the Arkansas School for the Deaf in Little Rock for surpervisory personnel from five states in that area. These two workshops brought into much clearer focus an outline of the needs of teachers of the deaf in instructional media. Accordingly, two different avenues of attack began to take shape. One was to continue workshops similar to the ones just held, and the other avenue was to be called "Project Hurdle" in which a trained teacher of the deaf, who was a specialist in the area of instructional media, would go to a school for the deaf to spend a whole semester training teachers there in using materials and equipment supplied by Captioned Films for the Deaf.

The typical two-day workshop in the use of instructional media for in-service education of teachers is put on in a school for the deaf. Frequently teachers of the deaf from nearby day schools are invited to participate. The program is opened with an orientation lecture calculated to point out the lack of suitable educational achievement for the majority of deaf school leavers. In addition, attention is focused on some notions and theories related to the process by which the symbol system, language, is normally acquired. These call attention to the need for earlier identification of the deaf child, ealier educamembers of the group practice what they have just seen, the Specialist shows others how to make transparencies with overlays. By the end of the period, each teacher has made several transparencies.

To the "Dry Mounting and Laminating" session, teachers bring their own pictures to be mounted and/or laminated. The Specialist demonstrates the processes and participants make materials for use in their own classrooms.

For "Lettering and Color-lifts," the Specialist demonstrates Wrico and other guides. Participants work at both with help as needed. Some become quite good at lettering in a very short time. Color lifting proves to be an exciting new idea.

The "Projectors" section is a hodge-podge in which all kinds of projectors and other teaching devices, such as the Language Master are demonstrated. In addition, a demonstration of the do's and don't's in using the overhead projector is given. Particularly, it is pointed out that, when the teacher is using the overhead projector, she keeps *eye control* of the class. In addition, if the teacher sits near the projector, its light illuminates her face in such a way as to enhance the opportunities for pupils to lipread. If time permits, participants may practice using the projectors which are of interest to them.

"Project Hurdle" was taken first to the Arizona School for the Deaf where we learned almost as much about putting on instructional workshops and training activities for teachers of the deaf as the teachers learned from us. First of all, we had great difficulty in getting the equipment delivered to the school in time to be of much use to our Media Specialist, Mr. Robert Schmitt.

During the second semester of the 1965-66 school year, "Project Hurdle" was moved to the Arkansas School for the Deaf, where similar problems of getting equipment and materials were encountered. However, from the year's experience of putting on "Project Hurdle" in two schools we came up with some ideas. One was to the effect that, in general, teachers of the deaf were, and are, so inexperienced in the whole area of instructional media that it is going to take more than just one semester's training on a part-time basis to induce all teachers of the deaf to use instructional media extensively in their classrooms. To be sure, a few teachers caught on to new ideas immediately and began continuously to use all sorts of new devices and materials. Others tended to stick to traditional methods of teaching deaf children. Still others wanted to use the new materials now and then, or to use them to supplement traditional methods. Few quickly adopted equipment, materials, and techniques as a *new way* of teaching. This has led us to return to the original two "Project Hurdle" schools for brief workshops. During these return engagements, we have pushed whatever teachers wanted to learn, and thereby helped more people in the areas in which they felt a need. This sort of thing needs to be carried on over a period of years in order that, from time to time, a Specialist may be available to the teachers in a school for help in whatever area of instructional media they feel a need. It also suggests that each school for the deaf needs an Instructional Media Specialist, who will be available to help teachers develop whatever areas of instructional media appeal to them most. A number of schools already have employed full or part-time Instructional Media Specialists. These people are having good success in helping teachers in those schools to use instructional media more effectively. As the summer institutes produce more people who are qualified to give help in instructional media, more schools will avail themselves of the opportunity to have a full or part-time Instructional Media Specialist to help teachers utilize new ideas, methods, and materials.

Training teachers to use these new materials and devices is not all that is necessary however. The storage and retrieval of instructional media materials is quite a problem. It has long been known that when the projector is difficult to get; that is, the teacher has to go downstairs, or over to another building to get it, or when one has to go through a lot of red-tape to get a film, teachers just do not use these devices. It is being made abundantly clear to us that the instructional media equipment and materials, that is the projectors, carts, the materials, such as films, transparencies, must be readily available, if teachers are going to use them. This means that every school for the deaf needs to have an Instructional Media Center, where not only equipment and materials can be stored and made readily available, but where the Instructional Media Specialist for that school, will be in a position to give additional in-service training to teachers on the staff. The Media Specialist must push, but gently, for the widest possible use of Captioned Films for the Deaf materials, along with the 16mm the 8mm, the filmstrip, slide, and overhead projectors.

Not to be overlooked by the Media Specialist, is the promotion of the use of the *instant* picture in the classroom. The Polaroid camera can be used extensively in bringing back to the classroom pictures of field trips and all sorts of excursions, so that there can be no confusion about what the teacher is talking about in relation to the just-finished field trip. In this connection, the Polaroid camera, using clear roll film, produces a small transparency that can be projected immediately.

The workshops provide an introduction to the use of instructional media and "Project Hurdle" provides a somewhat prolonged follow-up. Together they provide a program of *in-service education* for teachers of the deaf which from all reports is speeding up the process of teaching deaf children.

THE PURPOSE OF EDUCATIONAL MEDIA IN THE LEARNING PROCESS

by

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Paper prepared for Symposium on Research and Utilization of Educational Media for Teaching the Deaf, April 10-12, 1967, Lincoln, Nebraska.

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A faculty member of the University of Nebraska since 1943, Dr. Wesley C. Meierhenry is now Assistant Dean of the Teachers College, Professor of Educational Administration and History and Philosophy of Education, Director of the Advanced Professional Division, and Coordinator of the University's Teacher Placement Division.

He has written a book and many bulletins and articles on media, learning theory, and instruction, including Trends in Programmed Instruction and Media and Educational Innovation. Dr. Meierhenry has also been involved in a number of research projects, including "Competencies Needed by Teachers in the Use of the Newer Media."

Dr. Meierhenry has been abroad four times in connection with his professional activities. He was recently elected President of the Department of Audiovisual Instruction of the NEA for 1967-68. He is a member of the Board of Directors of Teaching Film Custodians, Inc.; Advisor to the Educational Policies Commission; involved with Project Discovery since its beginning and Co-Director of a research project located at Ohio State University which conducted research on Project Discovery; and Consultant to a sub-committee on Innovation and Efficiency in Education for the Committee on Economic Development.

Dr. Meierhenry, a native of Arlington, Nebraska, received his Bachelor of Science Degree in 1936 from Midland College, Fremont, Nebraska. He received his Master's and Doctor of Philosophy Degrees from the University of Nebraska.

From 1936 to 1938 he was teacher and coach at Republican City High School. He served as Superintendent of Schools from 1938 to 1943. Dr. Meierhenry joined the University faculty in 1943.

Dr. Meierhenry is a member, among other organizations, of the National Education Association the National Association of Educational Broadcasters, the American Educational Research Association, the Nebraska State Education Association, and Phi Delta Kappa.

THE PURPOSE OF EDUCATIONAL MEDIA IN THE LEARNING PROCESS

I wish to examine a number of elements in media development. First, I wish to consider how media will help us in terms of the teaching-learning process. Second, I want to deal more specifically with what media can do in-so-far as the presentation of content is concerned; and third, I will discuss ways to organize the teaching-learning process in order to improve instruction. Finally, I will raise a series of problems regarding some of the troublesome areas which, it seems to me, confront all of us, particularly those of you who work in the field of the hard-of-hearing.

The first point I wish to consider is that in education I believe we are moving toward the development of a flexibility within our educational system which will make it possible to truly individualize instruction. I agree with Carolyn Whitenack who stated in her paper that learning is a highly personal and private affair. What we are trying to do by means of the media is to see to it that this private, personal kind of act we believe is necessary for learning to take place is accomplished most effectively and efficiently. Therefore, I view media as assisting us to depart from an instructional pattern where everything is planned, executed, and dominated by a teacher. I see us moving in a direction where media are going to free us from restraints and introduce some flexibility into the process related to student needs and interests. It should, in fact, enable us to give students considerably more opportunity to intervene into the learning process in terms of the timing, learner needs, and content. I believe that we are beginning to see a movement away from the traditional instructional process where goals are predetermined by adults in terms of what adults consider is good for children; rather,we'll be taking into account the student needs and presenting opportunities for students to become involved in the process.

Secondly, I see us moving away from fixed kinds of schedules. When you take a careful look at the way in which we have organized day schools, you can see how ridiculous our current schedule is. This is, parenthetically, one of the places the residence school has an obvious advantage over day schools because education is looked upon as being a twenty-four hour a day and a seven day a week process. In education generally we have organized schedules in such a way so that school begins at 8:30 in the morning and dismisses at 3:30 in the afternoon - seemingly on an assumption that those are the hours during which learning takes place, rather than assuming that learning takes place continuously. We are beginning to move away from a five day school week and to develop instructional patterns in terms of a school year of 365 days and extending the scope from the cradle to the grave. Media can assist us by supplying the experiences and providing opportunities to make education a continuous and individually scheduled activity.

Third, I see us moving away from fixed space allocations. To a degree, there has been a tendency to discuss a materials center or a media center as if it were a particular physical location in a building. A number of the papers suggest that material and equipment, such as carrels which once were found in a media center, are being moved into locations around the building. Equipment is being located in corridors and classrooms which suggeststhat we are breaking down the physical boundaries where education takes place. Education does not occur only in a classroom or media center but learning takes place anyplace,such as inside and outside the classrooms, in the neighborhood, and in the world-at-large. Again, media assists in overcoming space barriers and helps us to understand that time and space needs to be utilized fully for learning.

A fourth area in which I see the lines disappearing is in such regards as who is a student, who is a teacher, what is a school, what is the home, and what is a neighborhood. There are times when the student is now programming certain kinds of materials himself. For example, it has been found that students can be extremely helpful by programming certain kinds of materials both for other students and teachers. This suggests that, at times, the student is the teacher, and at other times the teacher is the student. Thus, the lines as to what is school, home, and neighborhood are disappearing. We are beginning to see that all experiences are appropriate for learning regardless of where they take place or to whom they occur.

The direction we are moving suggests that teachers and students are likely to resist the kinds of media and technology which tend to introduce rigidity into the program. I believe that it will be necessary to make every effort possible to have available immediately in both the classroom and the building the resources which are needed for learning. I believe one of the reasons open circuit television via networks has had difficulty being accepted and why block booking of films has encountered problems is that the conditions are not suitable for the classroom teacher to plan sufficiently in advance to make appropriate use of those media under such circumstances. Flexibility and adaptability must be built into the system and managed at the level of the learner and the teacher. This is not to say that teachers oppose the use of motion pictures or television; they oppose the fact that they are forced to plan and execute learning experiences in an unnatural way.

With such a general backdrop in terms of what it is that educational media can do for us, let me move to the second major part of my presentation which deals with the examination of media as applied to the teaching-learning act. First of all,I would like to look at media in terms of student use. Student needs, student interests, and student concerns must be taken into account to a greater extent than has been true in the past. One might ask, "Haven't we always been concerned about students?" The fact is, however, that much of our instruction has been in terms of objectives which have focused more on what it is the adult wished to do, rather than looking at instructional materials through the eyes of the student. Dr. Stepp has often demonstrated materials he has prepared for hard-of-hearing students. When, for example, he develops materials to teach such ideas as right and left instead of looking at hands from the perspective of an observer, he has developed them from the point-of-view of the learner. What I am suggesting is that we exercise more concern for the student in all that we do.

Second, I wish to discuss content implications. Although this symposium was not devoted to message design, I feel that we cannot lose sight of the significance of what it is that is going to be carried on and transmitted by the various kinds of media. For example, some persons who are making a careful study of the academic areas believe that there are certain basic structures of underlying principles which pertain to each specific content field. There may be a different structure, a different way of looking at social sciences than at science, or mathematics, or language arts, or Engligh. One of the things that media can help us to do is clarify through the use of overlays, motion pictures, and manipulative materials the basic structures of the content areas. Thus a purpose for media, so far as the curriculum is concerned, is to place into our hands the kinds of devices and materials which make it possible to clarify the structures of the various subject matter fields for teachers and students.

There also is a great deal of ferment today in the field of curriculum development in terms of new approaches, methods, or strategies of teaching. The discovery approach in science, the inquiry approach in history, or the use of inductive reasoning are some examples. Let us examine the inductive-deductive problem because it is impossible to utilize the inductive method unless there is available a broad spectrum of media. Inductive reasoning is the opposite of the deductive approach which has been traditionally followed in teaching. Deductive reasoning proceeds by giving a rule, discussing that rule in discoursive fashion, citing examples, and then assigning problems to be solved in order to demonstrate that the rule is understood.

The inductive approach is initiated with a basic experience on the part of the learner, which can only be given him by some kind of media. A verbal approach of telling is improper. The student must have an experience and either mentally or physically manipulate something. After the student has had the experience, a teacher helps him to draw upon it so that he inductively arrives at the rule or principle, following which he demonstrates an understanding of it by solving practical problems. Any teacher or school considering moving into the newer curricular patterns of inquiry, discovery, or inductive teaching will find it essential that a wide range of media be available to them and their students.

I am going to show a motion picture clip which illustrates a group of youngsters in a school who are practicing the inductive approach in science. (Use of film clip from "Child of the Future.")

A term which Bruner didn't use in the film, but which some authorities use, is the so-called "process" approach. In the field of science, the AAAS is urging the process approach. Bruner was suggesting, for example, that the physics learned by students is important, but that the process through which they learn may be equally or more important. Many persons believe that media represents one of the best ways of incorporating such new approaches as discovery and inquiry into our school systems since the teachers and students both learn the content as well as the process involved.

Third, I want to discuss the learner in two dimensions. First are the kinds of qualities with which the learner was born. As a result of research we are beginning to be aware that certain youngsters seem to be born with the capacity to deal with abstract symbols such as are represented by reading. It is also beginning to become evident, however, that many youngsters are born with an ability to perceive and learn more rapidly through the visual media. Persons from the fields of science, technology, and mathematics often seem to have the particular native ability to conceptualize and learn better from visual media than from verbal approaches.

A third ability, learning through the sense of hearing, is one which is lacking in the youngsters with whom you deal. If the youngsters you teach would fall into the same classifications as the youngsters in the general population, about a third or fourth of them would ordinarily find it much easier to learn through the sense of hearing. Just what this means in terms of strategies, materials, and resources for teaching the hard-of-hearing, I don't know. It would seem that those youngsters need help to learn in ways other than what would be natural for them. Looking at the qualities of the learner, then, it is evident that some learn best in a visual mode, and others are able to deal with those abstract configurations that we call language. If all the youngsters are to have an equal opportunity to learn, it will be necessary to have a complete range of resources in the classroom and in the media center.

In the last several years we have begun to study the disadvantaged child and to identify the disabilities which apply to him. I do not have the statistics of the kinds of homes from which your youngsters come who probably differ as to whether your school is private or public. If the same kinds of home problems pertain to the youngsters that you teach which apply to normal youngsters, they will be conditioned to a considerable degree by their home environments. Disadvantaged children must have a broad continuum of resources available in order to help each type of youngster learn. This will depend upon the kind of disadvantaged environment from which they come. If your youngsters come from deprived home environments for whom manipulative, visual, and other kinds of experiences are seriously lacking, these voids must be compensated for as rapidly as possible by the schools. Media represents one of the means by which we might help to compensate for these cultural deficits.

A new area into which you are moving is individual study, and certainly the preceding papers emphasized the need for individualized study in terms of saving teacher time and in terms of the youngsters becoming much more self-directed. As individual study becomes more prevelant, I think it is clear from the various papers and proposals at this symposium that this innovation can become a reality only if there are available all kinds of devices and materials to be placed in carrels, dormitories, and in the homes where these youngsters live. Your schools are not moving to large groups, as are many public schools, but instead are moving from small group to individual study; however, such a move will require a broad-based media program to be successful. Ungraded primary or continuous progress schools are among the newer developments where again you have an advantage over regular schools and you have tended to group youngsters by larger blocks such as primary, lower elementary, etc. Even here I think it may not be sufficiently understood by many, that the moment the school organization permits youngsters to be at different stages of learning, media must be available to meet such individual needs. If caution is not exercised, a group of ten will be taught as if they were a homogenous group with similar abilities and backgrounds. Media makes it possible to individualize and to more nearly meet the learning needs of each individual student. As individual study is developed along with greater analysis of small group study, a media center becomes essential.

In conclusion,I should like to identify several problems which, I feel,plague all of us. One of the first questions which confronts us as we consider making use of the media is, "How do we help youngsters to make use of experiences so that they develop concepts?" How do we relate experiences so that they aren't just individual and discrete, but rather are related to what the psychologists call "cognitive" kinds of learning. I believe that we need to be cautious so that the materials used are not individual bits of unrelated facts, but rather media that enable youngsters to conceptualize. The cognitive area is one which needs much more attention than it has received so far, and I think it is one of the areas with which you will be confronted increasingly as you utilize technology more extensively.

Second, many psychologists believe that one of the next breakthroughs which is going to occur with normal youngsters without handicap is in the area of manipulative experiences. Certainly the kinds of students with whom you work must have additional help in dealing with texture, form, design, color and other similar contextual problems. Many speculate that the next major development in the media field is going to be in terms of finding ways to develop a laboratory approach which will enable youngsters to feel, manipulate, and use the tactile sense in ways that will assist them to learn. The vicarious, two dimensional, and often linear world in which cheldren live demands greater reality. This may be an area to which you will want to give attention in order to develop a reality through technology.

Third, how are you going to involve youngsters in responding to mechanical devices so that they remain active and the response becomes for them a personal act? Some teachers are very concerned about such devices as 8mm film and other similar learning tools because they are not certain whether the learner is psychologically active during the process. We must discover if pushing a button or drawing a line or some other response means that the student is being active. Are there other kinds of things that students must perform in order to be certain that the learner is as active when he uses media as when he is involved in face-to-face communication.

Fourth, how rigid a system can we develop and still have it compatible with student needs? Those who have worked with systems report that the process which works best is one which tightens-up the system by specifying the kinds of behavior that you wish to develop. However, it may also be best to release tension by providing several alternate instructional modes. Behavioral objectives must be specified more carefully, but there must be many more ways in reaching the students in terms of experiences and resources. The question I pose is, "How rigid a system can be developed and still have it be compatible with learner and human needs?"

Fifth, how do we better utilize the home and the family? Columbia

City, near Washington, D.C., is built on the assumption that most of the education of the future will take place in the home and only a minimum of it will take place in what we would currently call a "school". A recent issue of a magazine portrayed what it called the most important room in the new home today, and that room is a learning center which appears very much like the learning center found in the most up-to-date schools. Another similar question is the one as to whether there are better and more appropriate ways of teaming up with the families to determine if what you do so effectively in your schools is undergirded, supported, continued, and expanded by the home environment? Perhaps it will call for some of the same kind of hardware and software which you use in your schools to be placed in the homes.

Finally, I raise the question about the use of media for evaluation purposes. One medium about which I haven't heard much discussion at this symposium is the portable video-tape recorder. I believe that within the next several years practically every modern school will have a video-tape recorder. The video-tape recorder, for example, is going to return the control of television to classroom and school building levels and it will make instructional television much more useful again. Some years ago, Jack McBride and I completed a study in regard to the setting up of libraries for recorded televised materials. I would raise a question as to whether your schools might not wish to consider developing and exchanging video-tapes for teaching purposes. I would further urge you to consider the use of the video-tape recorder for evaluation purposes since the kind of visual problems with which you are concerned seem highly amenable to solution through the video-tape recorder. To show certain kinds of speech, for example, the screen can be divided. A number of other similar production procedures can accomplish other purposes. What place is there, then, for such devices as the video-tape recorder and similar instruments for self-evaluation by your teachers and students?

SYMPOSIUM DISCUSSION SUMMARY

BY

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Summary prepared for Symposium on Research and Utilization of Educational Media for Teaching the Deaf, April 10-12, 1967, Lincoln, Nebraska.

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George Propp, Area Coordinator for the Midwest Regional Media Center for the Deaf, is a graduate of the Nebraska School for the Deaf. Mr. Propp obtained his B.A. and M.A. from the University of Omaha, and more recently received an M.A. in Educational Administration from San Fernando Valley State College as a participant in the Leadership Training Program in the Area of the Deaf. He is currently a doctoral candidate at the University of Nebraska.

Mr. Propp has been a teacher of the deaf for nearly twenty years, all at the Nebraska School for the Deaf. In addition to his high school teaching duties, which covered several subject areas, he was also varsity athletic coach.

Formerly editor of the NSD school paper and a member of the editoral staff of the Deaf American, Mr. Propp has written many articles of a journalistic nature. He is a member of several professional organizations, a Board Member of the National Association of the Deaf, and Publicity Director for the World Games for the Deaf Committee of the American Athletic Association of the Deaf.

SYMPOSIUM DISCUSSION SUMMARY

In summarizing the discussions that took place during the 1967 Symposium on Research and Utilization of Educational Media for Teaching the Deaf we have used what might be called a topic review. Although the luncheon table and the lobby are regarded as legitimate sources of data, most of the information contained in this summary was gleaned from the comprehensive notes taken by the Symposium recorders, as well as from the written comments contributed by the discussion participants. Available information was broken down into topics and sub-topics covering all the salient points of discussion to reveal the problems, both general and specific, of establishing an Educational Media Complex in a school for the deaf along with recommended solutions. It might be added that not all problems were solved.

General Principles Underlying the Concept of an EMC

Education of the hearing-impaired child, it was generally agreed, is in a state of transition. There exists considerable confusion as to the role of various school personnel in the new scheme of things. In the area of educating the deaf there is almost unaminous agreement on the need for change. The educators of the deaf who were assembled at the Nebraska Center for Continuing Education seem to believe that technology can provide at least a part of the solution to the educational problems of the deaf, but there is also evidence that we firmly realize that there are things that a teacher can do better than a machine. Not everyone perceives media in the same way, but there is very little dissent to the idea that media is basic to a sound instructional program and that a mediated teacher is more effective and efficient than one without media.

Large sums of money, it was conceded, are available for improving instruction of the hearing-impaired. We must, according to Dr. Withrow, use this money wisely and shun "static projects." "Educators", he added, "are our most important people. If a bank can use technology and make it pay, why can't schools?" At the same time, there are needs in the education of the deaf that money cannot buy. We cannot escape from the fact that eventually everything is reduced to human terms, and the deaf child who does not communicate freely with the family, teacher, houseparent, peers, the cook, the maid, the custodian, and yardman will never become a part of his environment, no matter how proficiently he communicates with a computer. During the conference the need to recognize the demarcation point between child-centered and electronic-centered instruction was stressed repeatedly.

Underlying much of the discussion was the philosophy that what we have is much less important than what we do with it. The way we utilize media gives it its true value. One of the key statements of the entire conference was by Carolyn Whitenack when she said, "The content of media is more important than the format".

Also worthy of mention at this point was the statement by one of the participants that education of the deaf has for too long been insular and parochial, and that there is a great deal we can learn by interacting with other areas of education.

Another key concept which pervaded a great deal of the presentations and discussions was the idea that the Educational Media Complex is not a distinct and separate phase of the school program. The EMC permeates the entire school structure, reaches into the dormitories and classrooms, undergirds the entire instructional process, and requires a complete re-appraisal of many of the procedures to which we have been accustomed for a long, long time.

Personnel for the Educational Media Complex

In staffing an Educational Media Complex, perhaps the key word is compromise. Patricia Cory's discussion of the personnel section of the forthcoming Standards for a Library-Media Center for schools for the deaf was very timely and answered a great many questions related to the staffing of an EMC. However, school administrators noted a considerable disparity between what is ideal and what tax funds will buy, and most considered an EMC staff of ten people (for a school of 375 students) out of reach. It was suggested that we should plan in terms of what is ideal, and then face the realities of local conditions.

It was agreed that at the present time there are not enough qualified media specialists to meet the demand. This is a general condition and not peculiar to the education of the deaf. Numerous suggestions were made for solving this problem, but it was cautioned repeatedly that we should be careful of depleting our thin ranks of classroom teachers to meet the needs of our media programs. It was pointed out that we can bring in people from outside the profession to fill non-professional or paraprofessional positions on the EMC staff. There is a need for greater emphasis on training media personnel in our existing teacher training centers for the deaf. Also, two-year programs in regular colleges and universities, as well as in Junior Colleges, for training media technicians will doubtlessly contribute to the solution of the problem of personnel shortage. It was also suggested that training of technicians would be a worthy activity for the NTID, and this should be given careful consideration in planning the NTID curriculum.

Media personnel in the area of the deaf would generally need the same qualifications and training as those in the public schools. In addition, they would have to understand the needs of the deaf and the curriculum problems in the education of the hearing-handicapped. Professional members of the media staff, it was conceded, would ideally, need to complete a teacher training program in the education of the deaf. Actual classroom experience would also be desirable. Robert T. Dawson pointed out that, "We must build creditability in our media programs. The media directors should not be people who have never developed creditability in their own teaching methods." The ideal training program for a media director would require a rather lengthy sequence of studies; but, for other personnel on the EMC staff, training should be appropriate for the function that the individual serves. On a large staff, not all would need to be all things, and each one's training and skills would supplement each other.

The question was raised as to certification of media personnel.

It was pointed out that the librarian must be certified, but audio-visual people do not. Unquestionably, this injustice will be rectified, but Raymond Wyman cautioned that training standards should not be so high as to discourage potential candidates. On the other hand, there is also the danger of too many "experts".

Dr. Wyman thinks in terms of two distinct types of media specialists -- a presentation specialist and one who concentrates on individualized instruction. In the smaller schools both these functions would, admittedly, have to be combined in the same person. In either case, it would require a broad knowledge of curriculum.

Lloyd Graunke raised the question of a possible conflict in the roles of the media director and the supervising teacher. The proposed functions of the media director in some areas appears to usurp the traditional duties of the supervising teacher. Dr. Graunke suggested a training program in media utilization for administrative personnel in the supervisory position. This, no doubt, would be a positive contribution to the team approach, but at the same time few will disagree with Dr. Wyman's statement that constructive criticism may give us higher educational standards and better teachers.

The Role of the Classroom Teacher in the Educational Media Complex

Prepackaged or prepared materials or units, or any of the other materials or services of the EMC, in no way minimize or reduce the role of the teacher. The EMC only adds to the inventory of materials from which the teacher selects with judgement in order to develop certain concepts, attitudes, or skills. The teacher, as much as ever before, determines what is to be taught and how. Put in another way, the teacher "thinks" material and the media specialist creates it.

Discussion at the 1967 Symposium reinforced the concept that the classroom teacher retains full responsibility for the instructional task and that her relationship with the EMC personnel is most aptly described by the word teamwork. The purpose of the EMC is to make the teacher more effective and efficient. The fear was voiced that media use and a greater emphasis on independent study would adversely affect the important teacher-student interaction. The truth of the matter, it was stressed, is that media frees the teacher from repetitious drill work (where most student-teacher conflict arises) and frees her for more, rather than less, interaction. Marshall Hester pointed out that the film teacher never loses patience even after repeating the same thing a hundred times.

There was considerable discussion, both formally and informally, regarding the fact that under present teaching schedules the classroom instructor has insufficient time to prepare or research instructional materials. Too much of teacher-prepared materials, it was agreed, suffers for lack of sufficient time, and too often her purchase recommendations are for ineffective and outdated materials because she lacks the time to search and evaluate properly. Aside from the fact that the EMC can greatly resolve this problem, it was agreed that the classroom teacher should have more time -- as much as one-third -- for planning and preparation. Many of the participants were apparently impressed with Lloyd Ambrosen's suggestion that teachers work an additional month each year (with pay), devoting this time to the preparation and acquisition of instructional materials. Also mentioned was the need for time and motion studies to determine exactly how efficiently the classroom teacher utilized the school day.

The concept of an Educational Media Complex presupposes a greater involvement of the teacher and more comprehensive curriculum planning to assure that instruction will be based upon the curriculum rather than upon available materials and equipment. Involved in curriculum planning is the need for more clearly defined educational goals, both long range and in terms of instructional units. The teacher must be able to define these goals to the media specialist in terms of behavioral objectives. Participants were in unaminous agreement that media should not determine the curriculum, that its role is supportive.

A number of other suggestions were made which are worthy of mention:

1. As it is agreed that a mediated teacher is a superior teacher, the suggestion was made that a special reward or compensation be provided teachers who can integrate various materials and make effective use of the EMC.
2. The use of teacher aides could enable the school to make more effective use of its master teachers.
3. The EMC requires greater flexibility on the part of the instructional staff. Putting classroom developed materials into a central file will require the sacrifice of traditional independence.

4. The proficient teacher fully utilizing the benefits of an EMC will in the form of "sophisticated show-and-tell" stimulate other teachers.

Utilization of Media

Although media, per se, was not the topic of the 1967 Symposium, questions arose concerning the utilization of media. The previously mentioned statement that "the content is more important than the format" applies to the EMC as a whole as well as to individual items of instructional materials. Most concern was with the problem of evaluating equipment and materials. With the vast proliferation of commercially available materials, there is a need to determine what is good and what is ineffective. It is hard for a school to obtain the most for its money unless there is some responsible judgement as to the merit of the materials. Particularly in smaller schools with limited funds there is a need for reliable data upon which to determine priority of purchase.

It was brought out that the Council for Exceptional Children is inaugurating a program for evaluating instructional materials for the handicapped. This program may have implications in the area of teaching the deaf. Also stated a number of times was the importance of having a central agency evaluate, as well as develop and distribute, instructional materials in order to avoid over-lapping efforts. However, underlying all discussion on the utilization of media was an awareness, repeatedly stressed, of a more accurate and up-to-date definition of the goals of education in programs for the deaf. Equipment can not be purchased wisely, facilities can not be designed efficiently, and an instructional unit cannot be developed effectively unless educational goals are properly determined and communicated in terms of desired behavior. This may be the most significant task of all.

The repeated stress on suiting the instructional materials to the needs of the individual child raised the question of how to identify the needs of the child who communicates as inadequately as the hearing-handicapped student. Frank Withrow emphasized that the child must be involved in this process, although the teacher, administrator, parent, health personnel, and others can make valuable contributions. He added that it may be necessary to develop the child's own sensory abilities.

To avoid waste of effort and duplication of materials, it was suggested that classrooms be arranged to share materials. This would usually be done in the design and construction of buildings. At the Pilot School in Dallas, it was pointed out, six classrooms are arranged in a cluster so that they can share materials more effectively. In an EMC, teacher-prepared materials which might be useful to students or to other teachers should be stored in the central facility. Otherwise, materials prepared for specific instructional units should be stored in the classroom.

It was generally agreed, that the trend toward individualized instruction is very significant. William Jackson pointed out that the child must have an opportunity to fail in privacy. In traditional school settings it is always a public failure. Individualized instructions, it was noted, will require a change in many of the traditional schoolroom practices. Those teachers, for example who feel that they are responsible for every minute of the student's time and for his every action will perhaps find it difficult to dispense the freedom that individualized instruction requires.

Some teachers present questioned the need for two screens in the classroom. Dr. Wyman pointed out that one is a communication screen and the other a presentation area and should in the minds of the students be thus identified. The screens are not to be used simultaneously or interchangeably. Another inquiry from the floor dealt with the problem of stimulating the use of media. The answer to this was quite broad and involved the leadership function of the school principal and EMC personnel as well as such small details as having equipment in workable condition and available when needed.

Continuing Education for Teachers in Media

Continuing education, a more appropriate designation than in-service training, is a vital part of the numerous changes taking place in the education of the deaf. First of all it was agreed that there is a need for greater emphasis on media in teacher training programs. It was stressed that adding audiovisual courses to the training program is insufficient, and that, because we generally teach as we have been taught, it is essential that all teachers in training programs be exemplary users of media.

It was conceded that, regardless of the quality of training received, a teacher's media skills will obsolesce rapidly, and that some form of continuing education is essential. Of unquestionable value are the short-term workshops, such as those conducted by Marshall Hester. Planned primarily as an orientation device, these workshops have had long-term effects. Aside from providing a form of training, the workshops serve as a feedback device through which Captioned Films for the Deaf keeps informed as to the needs of the classroom teacher. For greater effectiveness, it has been noted that the workshops need some sort of follow-up. This is usually best accomplished by a media specialist on the school staff who serves as a resource person for all the teachers. This man would be the key person in the continuation of the benefits of a workshop. It was admitted that it is difficult to assess accurately the value of a workshop. Demand for materials would be one objective indicator, and by this gauge the workshops have been very influential.

Although audiovisual classes for student teachers in training programs are highly desirable, this provides an adequate background only for the newcomers to the profession. Veteran teachers need some sort of training to update their skills. In Robert E. Stepp's report on the activities of the Midwest Center, he discussed the off-campus classes in A-V which he had been conducting at the Nebraska and Iowa Schools for the Deaf. These classes for college credit have stimulated interest in media in the educational programs for the deaf in the immediate area and altogether may be said to be highly effective. Continuing and expanding efforts in this direction are highly desirable.

The highest order of continuing education would perhaps be that provided by the staff of an EMC. This effort would be of a continuous and practicum nature for the most part; however, there would be a place for formal group instruction.

Standards for an Educational Media Complex

Quantitative Standards for an EMC were described by both Gene Faris and Patricia Cory. In discussing the DAVI Standards, Dr. Faris made it clear that they are having a great impact upon educational programs across the nation, and that they without a doubt met a serious need. Mrs. Cory discussed the Standards for Library-Media Centers in schools for the deaf which are being prepared for presentation to the Conference of Executives and The Convention of American Instructors of the Deaf in Hartford in June of 1967. The report will subsequently be distributed by Captioned Films for the Deaf, so there is no point in going into the details in the present summary. The Standards as prepared are based on the argument that materials and staffing for an EMC in programs for the handicapped should greatly exceed those of public schools. As an example, Baltimore, according to Richard Darling, in budgeting materials gives triple weight to handicapped children.

The proposed Standards will no doubt have a tremendous impact upon educational programs for the deaf. They will, of course, have to undergo constant revision, and every individual school will have to adapt them to local conditions. Some of the conferees pointed out that the Standards would provide an invaluable service in selling school needs to legislative bodies. It was also suggested that eventually the Standards be written for two levels -- basic and advanced. Another suggestion which bears repeating is that an effort be made to establish a model school.

Organization of an EMC

Numerous questions arose on the details of starting an EMC from a scratch. How do we begin? Dr. Withrow suggested that, since no one knows the school needs better than the teachers, the ideal way to start would be with a committee of teachers to develop plans for the EMC. There are many sources of information and nearly every community has at least one good EMC facility to serve as a model. Several of the participants expressed a desire for a kit of instructions for setting up an EMC, including guidelines, sources of materials, priorities, step-by-step procedures, and so forth. It was suggested that a central agency assemble this data and keep it current.

According to Marie McMahon, a set of slides helpful in establishing an EMC is available from:

Michigan Audiovisual Association
Western Michigan University
Kalamazoo, Michigan

Funding an EMC will be described in Mrs. Cory's forthcoming report. Schools will need to revise and adapt these figures to local conditions. Regular school library funds, it was agreed, would not be used for expansion or remodeling purposes, which are capitol outlay items. Greater foresight in new construction, it was emphasized, is necessary. New facilities should provide future services with such items as flexible partitions, provisions for closed circuit television and dial access, wiring tunnels under the floor, and so forth. Time and motion studies are needed to determine the best and most practical layout. The suggestion was made that when a school is built, basic equipment should be added and 3 to 6 percent of the instructional budget go to maintain the program. Expenditures for book and non-book materials should be about equal.

The EMC as conceptualized at the 1967 Nebraska Symposium is more than mere physical facilities. We should not think of an EMC as another teaching station, but rather as a concept that pervades and undergirds the entire school program. In a school for the deaf, the EMC would be involved in the dormitory areas as deeply as in the school building.

Plans for organizing an EMC should consider a steady progression of efforts toward the desired objectives rather than a crash program. We should, we were reminded, crawl before we learn to walk. This will be especially true for schools that have to go to the legislature for funds. First step, as suggested, was that a room-by-room inventory of present materials be made before advancing any other plans. The idea is to find out where you are before proceeding further.

Administration of an EMC

One of the EMC's problems, unique to the education of the deaf, is that of providing services to the dormitory areas. Nearly all participants agreed that this is one area where a great deal can be done, and that we have never taken full advantage of the 24-hour-a-day learning opportunity that exists in a residential school for the deaf. A great effort needs to be made in this area with consideration of specially designed equipment and materials.

Judging from questions asked, there was a great deal of concern over the dichotomy that exists between the traditional library (book) and audiovisual functions (non-book) of an EMC. The solution, basically simple, is to remove the distinction between book and non-book materials; however, that is easier said than done. Staffing as suggested by Mrs. Cory would reduce this problem and it would be further minimized by training. It will, it was agreed, take considerable time and effort before the practices and customs deeply ingrained by training and traditions can be eliminated.

It will be a long time before the typical school for the deaf will have the funds and personnel to man an EMC on an ideal basis. Full professionalism is highly desired, but we must be realistic and make use of students, volunteers, and part-time assistants in creative as well as in clerical roles. Ben Schowe's discussion on the use of student assistants exemplifies this approach to the problems of an understaffed EMC, although everyone yields to the point that students are not to be exploited.

Storage and retrieval problems: Cataloging, it was agreed, should be complete and simple. It is desirable to include in the catalog those materials stored in the classroom. As far as practical, various media on the same subject should be stored in proximity to each other, so that it is readily accessible. With so much new material becoming available, Mrs. Cory recommends that microfilming capabilities be added to the EMC as early as possible.

Scheduling: It was brought out that many schools continue to schedule library periods for whole classes. Trend is to make the EMC facilities available when the teacher and students need it in order to take advantage of the teachable moment. A necessary requisite would be that the EMC maintain after-school hours and be open evenings and during week-ends.

Production: Local production is necessary supplement to commercially available materials, and constitutes one of the most vital services of the EMC. The types of media offering the most potential in this area are transparencies and the 8mm film.

Selection of Materials: A question that arose frequently concerned responsibility for selecting instructional materials. Most agreed that it is not a matter for any specified individual. Selection of materials requires the cooperation of the teacher, the specialist, the administration, curriculum planners, and the child. It was granted that there is a need for guidelines and programs to field test available materials before they are recommended for use. Attractiveness does not necessarily imply effectiveness, and the selector can be easily misled. The profession, it appears, needs to come to some sort of agreement as to What is good instructional material?

Dissemination of Information

Too much of available knowledge concerning media does not filter down to the teacher in the classroom. As a result, available material is not used, or ineffective and outdated materials are purchased because the teacher did not know that better things were available at competitive prices.

The education of the deaf is a relatively isolated field. This is particulary true of smaller day school programs. We should, it was generally agreed establish contacts with public school programs and communicate with local institutions of higher learning and participate more actively in national organizations. An inter-loan of materials with public school programs suggested itself when one of the Symposium speakers requested, please, that we make some of our materials available to the public schools, particularly special education programs.

Dissemination of information is generally a communications function. The Nebraska Symposium is but one of the many forms that it may take. There is a need for improved communication all the way up and down the line from the individual child to the legislative bodies that fund our schools. However, for the purpose of this summary we are mainly concerned with communications as it relates to the EMC. It was suggested that the area of the education of the deaf needs a clearing house for new ideas, similar to the services provided by ERIC. In the other direction, Mrs. Cory explains that she communicates with her teachers via a monthly bibliography, a bulletin board, a little "black book", and by delivery of current materials to the appropriate teacher.

Minor Problems

Other problems touched upon in the Symposium which could not be classified in the preceding categories are as follows:

1. The new copyright law has created some problems. It is

not clear as to what we can and cannot do, and we -- the field of education as a whole -- must come to some sort of understanding that is fair to both the publisher as well as the child.

2. The role of videotape was discussed at considerable length. Many educators seem to feel that television will eventually become the dominant media. ETV as it now exists is primarily a mass communications tool; however, with modification it can become a practical medium for individualized instruction. What is needed now, more than anything else, is additional data. We need to know what the equipment can do, whether programs can be modified economically, and, otherwise, what it is all about. It was suggested that in adopting television, we take a giant step or none at all. A piece-meal approach may lead to disillusionment.
3. A unique problem in the use of media in educating the deaf is that of room lighting. Because of lipreading requirements, this area needs a great deal of study. Ideal lighting for projection equipment is often inadequate for speechreading. Also, someone suggested that if we are going to use the overhead projector for five hours each day, the machines should have lenses of greater precision.
4. Someone raised the interesting question as to whether it would be possible to retrieve short pieces from longer films (film clips). It was noted that single-concept

films are being cut from longer movies, but the retrieval of film clips from large reels is a rather awkward business requiring familiarity with the particular film. Cataloging problems created by this capability would demand the use of computers.

5. Another participant deplored the hazard of trailing wires in a mediated classroom. Technology, it was pointed out, has already antiquated this problem, but nonetheless, the hazard exists in some of our most modern classrooms.

Conclusion

At the 1967 Symposium for the Research and Utilization of Educational Media for Teaching the Deaf, we were very fortunate to have an enthusiastic and responsive group of people. The concept of an EMC met with firm acceptance. Over one hundred participants returned to their respective schools with the knowledge that an EMC is essential to a program of quality education for the deaf, and, if they carried with them a sense of direction and some of the solutions to the problems they will encounter in carrying out their responsibilities in establishing an EMC, then the objectives of the 1967 Symposium have been achieved.

As one of the participants stated, "Utopia is long in arriving"; however, from feedback obtained, the sponsors of the Symposium are optimistic about the near future of the educational programs for the deaf. Teachers are willing to use media, and schools are in an increasingly better position to provide materials, facilities, and media personnel. The educational future of the deaf child never looked brighter.

APPENDIX A

SYMPOSIUM

on

RESEARCH AND UTILIZATION OF EDUCATIONAL MEDIA FOR TEACHING THE DEAF

"The Educational Media Complex"

National Conference
Sponsored By The
Department of Educational Administration
Teachers College
University of Nebraska

THE NEBRASKA CENTER FOR CONTINUING EDUCATION
LINCOLN, NEBRASKA

April 10 to 12, 1967

Support for this conference has been provided by a grant from Captioned Films for the Deaf, U.S. Office of Education, Department of Health, Education and Welfare.

PROGRAM

Monday, April 10

1:00-5:00 p.m. Registration, Conference Lobby

2:00 p.m. Reception, North Platte Room

3:00 p.m. General Session I, Scottsbluff Room
Chairman: George Propp, University of Nebraska
Report from Captioned Films for the Deaf

- Overview
  - John A. Gough, Captioned Films for the Deaf
- Reports from Regional Media Centers
  - Introduction
    - Ross Stitt, Captioned Films for the Deaf
  - Media Institutes, Transparencies
    - Raymond Wyman, University of Massachusetts
  - Saturation Approach, Facilities Design
    - William D. Jackson, University of Tennessee
  - Film Production, Overall Significance
    - Robert E. Stepp, University of Nebraska
  - Teacher Training, Portable Media Workshops
    - Marshall P. Hester, New Mexico Foundation
- Other Captioned Films for the Deaf Projects
  - Introduction
    - Mac Norwood, Captioned Films for the Deaf
  - Improving Instruction for the Deaf—Vocational Education
    - Donald Ferguson, Ball State University
  - Training Mentally Retarded Deaf
    - Max Frankel, Catholic University
  - Project LIFE
    - Glenn Pfau, Ohio State University
- Displays
  - Captioned Films
  - Project LIFE
  - Weekly Reader
  - 8mm films: AV Production, Fingerspelling
  - Sights and Sounds
  - Short Strip
  - Language Master
  - Lipreading Films

6:30 p.m. Banquet, Columbus Room

General Session II

Chairman: Howard M. Quigley, Captioned Films Educational Media Distribution Center

Welcome from the University of Nebraska
Dale K. Hayes, University of Nebraska

The Instructional Materials Center: A Changing Concept
Carolyn Whitenack, Purdue University

Tuesday, April 11

8:00 a.m. General Session III, Scottsbluff Room

Chairman: Thomas Behrens, Kendall School

Educational Media Center: New Look for the Library
Marie McMahan, Western Michigan University

Quantitative Personnel, Materials, and Equipment Standards for Audiovisual Programs
Gene Faris, Indiana University

Media Production Facilities in Schools for the Deaf
William D. Jackson, University of Tennessee

Break

10:00 a.m. Discussion Session

Group A, York Room
Chairman: Ross Stitt, Captioned Films for the Deaf

Group B, Beatrice Room
Chairman: J. Jay Farman, New York State School for the Deaf

Group C, Kearney Room
Chairman: Bill Blevins, The Clarke School for the Deaf

Break

11:45 a.m. Luncheon, Columbus Room

General Session IV

Chairman: Powrie V. Doctor, American Annals of the Deaf

The Idea of the School Library and Communication
Peggy Sullivan, Knapp School Libraries Project

1:30 p.m. General Session V, Scottsbluff Room

Chairman: George Propp, University of Nebraska

A Small Instructional Materials Center: Its Diffusion of Innovations for Learning
Ben M. Schowe, Jr., Ohio School for the Deaf

Personnel Required for an Instructional Media Center in a School for the Deaf
Frank B. Withrow, Illinois School for the Deaf

Report on Library Programs in Schools for the Deaf
Patricia B. Cory, Lexington School for the Deaf

Break

3:30 p.m. Discussion Session

Group A, York Room
Chairman: Dewey Brasel, Nebraska School for the Deaf

Group B, Beatrice Room
Chairman: Richard Krug, University of Colorado

Group C. Kearney Room
Chairman: Josephine Carr, Oregon College of Education

Break

7:00 p.m. Banquet, East Hills

General Session VI

Chairman: Robert E. Stepp, University of Nebraska

Welcome from the Teachers College
Walter K. Beggs, University of Nebraska

Introduction of Speaker
Wesley C. Meierhenry, University of Nebraska

Implementing the Media Program in Schools for the Deaf
Richard L. Darling, Montgomery County Public Schools

Wednesday, April 12

8:00 am. General Session VII, Scottsbluff Room

Chairman: Robert J. Schmitt, Houston Independent School District

Media Personnel to Serve Teachers and Students
Raymond Wyman, University of Massachusetts

In-Service Education Program for Teachers of the Deaf
Marshall Hester, New Mexico Foundation, Inc.

Break

9:30 a.m. Discussion Sessions

Group A, York Room
Chairman: Doin Hicks, Pilot School for the Deaf

Group B, Beatrice Room
Chairman: W. Lloyd Graunke, Tennessee School for the Deaf

Group C, Kearney Room
Chairman: Dorothy Beal, Omaha Hearing School

10:30 a.m. General Session VIII, Scottsbluff Room

Chairman: George Thompson, Nebraska School for the Deaf

The Purpose of Educational Media in the Learning Process
Wesley C. Meierhenry, University of Nebraska

Break

11:45 a.m. Luncheon, Columbus Room

General Session IX

Chairman: Robert E. Stepp, University of Nebraska

Panel Discussion

Summary Remarks
John Gough, Captioned Films for the Deaf

2:00 p.m. Adjourn

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APPENDIX B

1967

SYMPOSIUM ON RESEARCH AND UTILIZATION OF EDUCATIONAL MEDIA FOR TEACHING THE DEAF

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1967

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